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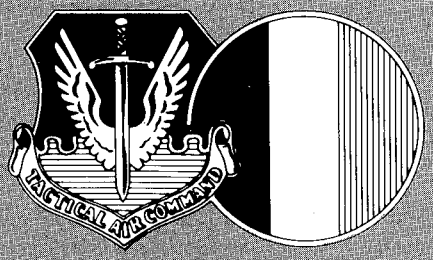

C^3CM

Multi-Service Procedures for Command, Control, and Communications Countermeasures

MAY 1991

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C^3CM

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*This publication supersedes TACP 55-19/TRADOC Pam 525-7/USREDCOM Pam 55-1, 15 December 1981.

CONTENTS

PREFACE

PURPOSE

This publication describes the concept and procedures for conducting C^3CM strategy to gain a combat advantage by protecting friendly command, control, and communications (C^3) while at the same time destroying or degrading the enemy's C^3 system.

SCOPE

This publication—

- Describes the C^3CM strategy.
- Outlines C^3CM planning and execution responsibilities.
- Delineates theater C^3CM strategy responsibilities.

APPLICABILITY

The procedures in this publication apply to the Army forces, the Air Force Military Airlift Command, and the Air Force tactical air forces who conduct C^3CM combat operations and training. This publication is generic. It uses approved joint doctrine and terminology as its foundation. The procedures apply to US unilateral operations only. For combined operations, applicable multinational procedures apply. Procedures herein may be modified to fit individual theater command, control, and international policy arrangements.

IMPLEMENTATION PLAN

Participating major command offices of primary responsibility (OPRs) will review this publication for joint procedural information that applies to its respective Service. Once they validate these procedures, individual Service OPRs should reference and incorporate them into the following Service manuals, regulations, and school curricula.

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The Tactical Air Command will incorporate procedures according to HQ TAC OI 5-1 (OPR: HQ TAC/XPJ). USAFE and PACAF will validate and incorporate appropriate procedures in accordance with applicable major command and other governing directives.

- *Tactical Employment, COMPASS CALL,* MCM 3-1, Volume XVI.
- *Tactical Employment, EF-111,* MCM 3-1, Volume XIII.
- *The Tactical Air Control System - Air Support Operations Centers and Tactical Air Control Parties,* TACR 55-46.

- *Tactical Air Force Headquarters and Tactical Air Control Center,* TACR 55-45.

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EXECUTIVE SUMMARY

C³CM

Multi-Service Procedures for Command, Control, and Communications Countermeasures

Battles are won by forces that have continuous command and control and are able to maneuver on the modern battlefield. As part of an overall strategy, commanders use C³CM to retain control of their forces while they deny enemy commanders the ability to command and control their forces. The Army uses C³CM to enhance combat effectiveness on the battlefield. Properly integrated, C³CM creates a friendly advantage by seeking critical targets and denying the enemy use of those targets at critical times. The Air Force places C³CM in the overall context of electronic combat by using C³CM as a way to achieve superiority in the electromagnetic spectrum. This achievement is critical to the Air Force, since it is highly dependent on C³ to effectively apply combat power. Like the Army, the Air Force requires an integrated approach to C3CM.

STRATEGY

C³CM has four principal components: physical destruction, jamming, deception, and operations security (OPSEC). In addition, intelligence support provides critical information for the commander's decisions throughout the C³CM process. An integral part of the process is deconfliction, both in planning for and executing C³CM. Deconfliction allows friendly C³ to operate while denying the enemy the use of its C³. Deconfliction provides a means for eliminating friendly interference with friendly C³ and prevents the waste of valuable assets against the same target. By tying C³CM to other actions on the battlefield, C³CM can be a combat multiplier.

RESPONSIBILITIES

C³CM requires planners that understand and operate inside the enemy decision cycle. By knowing the enemy's doctrine and capabilities, C³CM planners can effectively negate or destroy the enemy C³ structure. The joint force commander, component commanders, and their staffs are the key players in C³CM operations.

OPERATIONS

Using the decide-detect-deliver methodology, planners can effectively execute C³CM strategy. The first step focuses and prioritizes targets. The second step finds and monitors those targets. The third step provides timely, accurate action and damage assessment.

AIRLIFT COORDINATION

Planners must consider airlift operations in the overall C³CM strategy. C³CM covers the entire spectrum of ground and air operations, not only combat operations. To plan C³CM effectively, planners must know how C³CM applies to airlift operations.

INTRODUCTION

The fundamental premise of C^3CM is to gain an advantage by protecting the friendly C^3 structure while, at the same time, destroying or degrading the enemy's. The use of C^3CM has long been an integral part of warfare and an important part of national and theater strategy.

JCS Memorandum of Policy 185 defines C^3CM as follows:

> The integrated use of operations security (OPSEC), military deception, jamming, and physical destruction supported by intelligence, to deny information to influence, degrade, or destroy adversary C^3 capabilities and to protect friendly C^3 against such actions.

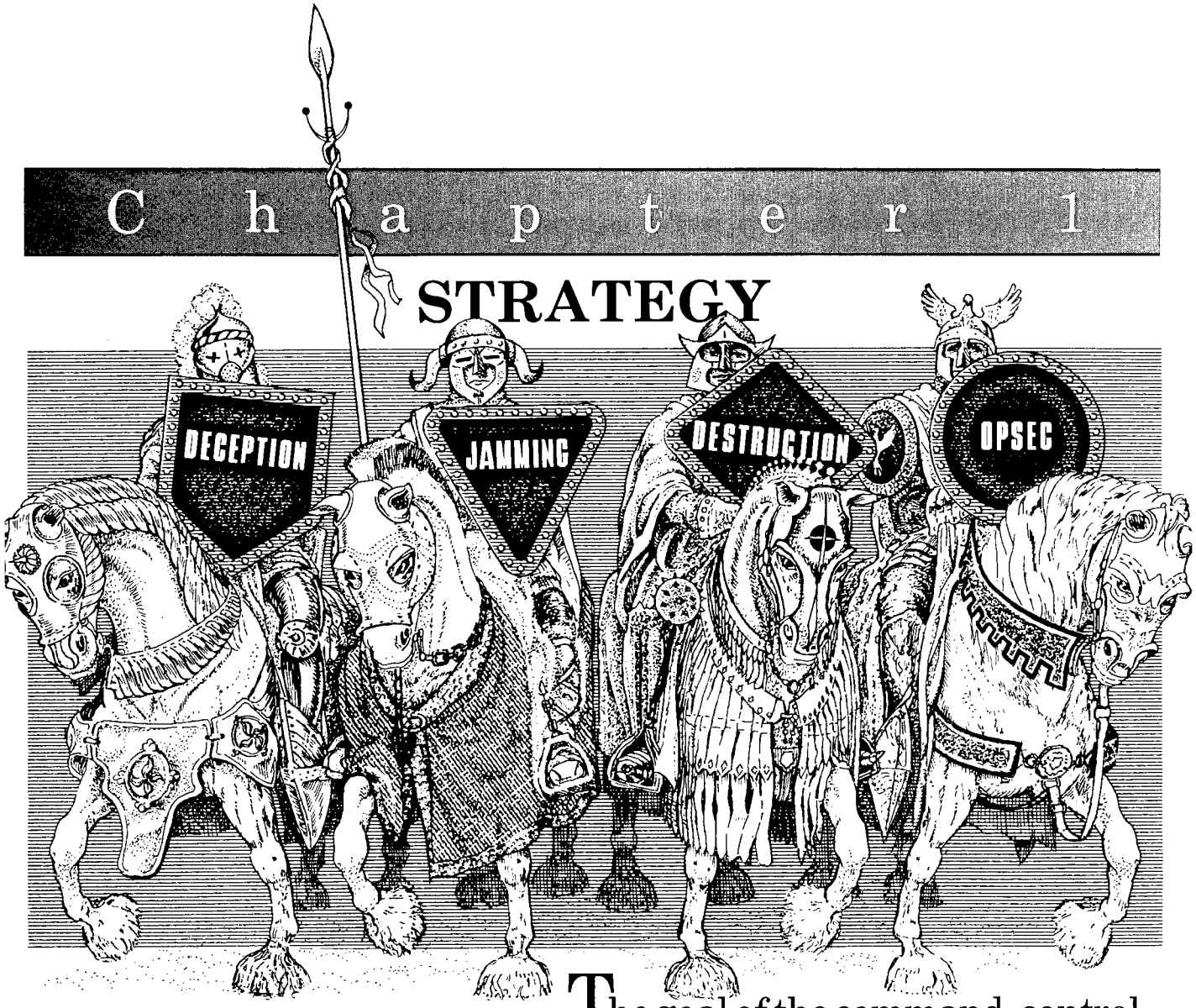
C^3CM is not a system. It is a strategy that pulls together various assets and techniques. C^3CM assists commanders and their staffs in determining the most effective way to employ limited resources to accomplish missions.

The components of C^3CM are not new; however, emphasis must be placed on achieving the proper mix of assets to best support the commander's concept of operation. This emphasis is particularly important in the joint environment where air, land, and sea forces must effectively integrate to accomplish the mission.

The commander has many C^3CM options that can integrate limited resources to form a combat multiplier. The use of destructive means, such as bombs, artillery, or torpedoes, may not always be the best solution. Instead, the commander integrates the use of disruptive means such as deception and jamming to maximize the desired results without expending large quantities of limited, destructive resources. In some cases, the exclusive use of disruptive means may achieve the desired outcome.

Chapter 1

STRATEGY



The goal of the command, control, and communications countermeasures (C^3CM) strategy is to attain battlefield success.[1] DOD Directive 4600.4 introduced formal C^3CM policy in 1979. This directive adopted C^3CM goals and objectives and focused them on modern warfare. All military forces, whether theater or unit, require some type of command and control (C^2) to accomplish their combat missions. [Normally, this C^2 is closely related to and dependent upon communications.] Commanders can greatly increase the chance of success if they disrupt the enemy's command, control, and communications (C^3) while protecting their own.

[1]Strategy is a science and art of military command exercised to meet the enemy in combat under advantageous conditions (JCS Memorandum of Policy 185, *Command, Control, and Communications Countermeasures*, 20 December 1983.)

CONCEPT

C^3CM strategy to ensure that commanders of friendly forces retain control of their forces and, at the same time, deny enemy commanders the ability to command and control their forces.

Objectives

The objectives of C^3CM are divided into two categories: counter-C^3 and C^3 protect.

Counter-C^3

Counter-C^3 consists of measures to deny adversary decision makers the ability to effectively command and control their forces. The objective of the counter aspect of C^3CM is to destroy, disrupt, or degrade the enemy's C^2 in support of the friendly commander's objectives. The counter C^3 process consists of the following:

- Identify the enemy C^3 nodes.
- Analyze nodes for criticality and vulnerability.
- Prioritize the nodes.
- Determine the effect desired and how each of the four components will contribute to the overall objective.
- Assign assets to each of the nodes to be attacked.
- Determine the effectiveness of the operation.

Counter-C^3 must concentrate on degrading critical enemy C^3 functions rather than simply defeating specific targets. To achieve functional kills, planners must identify specific enemy C^3 targets that relate to enemy C^3 capabilities. High-payoff targets include enemy C^2, maneuver, weapons control, and sustainment C^3 facilities. At critical times in battle, the coordinated destructive and disruptive attack of the enemy's maneuver C^3 facilities is expected to—

- Slow the enemy's tempo.
- Disrupt the enemy's operations and plans.
- Disrupt the enemy commander's ability to generate combat power.
- Degrade the enemy commander's decision cycle for executing mission orders and movement instructions.
- Degrade the flow of combat information and intelligence to enemy forces.

C^3 Protect

C^3 protect is designed to protect friendly high-value targets (critical assets) from enemy attack or deception techniques. The objective of C^3 protect is to deny, negate, or turn to friendly advantage an adversary's efforts to destroy, disrupt, deceive, or deny information concerning friendly C^2, including supporting information and intelligence activities.

The C^3CM staff officers devise a C^3 protect plan that protects friendly, critical assets from enemy attack or deception techniques. To assist them in preparing this concept, the staff uses vulnerability studies, internal and external evaluations, operations security (OPSEC), standing operating procedures (SOP), and C^3CM decision aids.

The commander may employ OPSEC, deception, and destructive or disruptive means to protect friendly, critical resources. The C^3CM protect process provides the commander a comprehensive list of options. The process involves continuous planning, data collection and analysis, reporting, and execution of orders and instructions. The protect process is cyclic. It changes depending on the nature of both the threat and friendly vulnerabilities. The protect process should include, but not be limited to—

- Identifying friendly, critical C^3 nodes.
- Identifying hostile intelligence collection threats.
- Identifying friendly force profiles and recommended essential elements of friendly information (EEFI) on C^3 facilities and vulnerabilities.
- Analyzing risk and selecting critical EEFI.
- Recommending countermeasures.
- Selecting OPSEC and deception techniques to conceal EEFI from hostile capabilities and intelligence.
- Applying selected countermeasures to attack, destroy, or disrupt enemy reconnaissance, surveillance, target acquisition, and intelligence systems.

- Directing efforts to monitor the effectiveness of the applied countermeasure.
- Monitoring effectiveness of countermeasures used and analyzing them.
- Recommending adjustments to the countermeasures.
- Selecting critical survival tasks to decrease friendly C^3 vulnerabilities.

Considerations

To be effective, commanders need to synchronize C^3CM with other military actions. As an example, jamming is most effective when important information is being transmitted over the link being jammed. Similarly, the optimum time to destroy a command post or a command element is when an immediate need exists for that commander to issue new orders or for the staff to change a course of action.

For countermeasures to be effective against anticipated targets, commanders must carefully plan them. For example, by using deception, commanders might deceive the enemy as to the actual location of the main attack. By jamming enemy reconnaissance elements, the report of actual location can be delayed.

The effectiveness of C^3CM is directly related to the detailed knowledge and understanding of the enemy's C^3 system. A wide variety of C^3 elements could be targets for countermeasures. The intent of C^3CM is not indiscriminate communications jamming but disruption of critical enemy C^2 functions when friendly forces can take advantage of the enemy's confusion.

Deconfliction

Deconfliction is "The process of optimizing the usage of the frequency spectrum incorporating both the requirements of the Battlefield Spectrum Managers and of the EW operations . . . [deconfliction] is concerned with the interoperability aspects of managing battlefield communications-electronic (C-E) systems to minimize electromagnetic spectrum conflicts with the intelligence and/or EW (IEW) units of the friendly forces. . . ."[2]

To accomplish the mission, the joint staff uses the C^3CM deconfliction planning process to ensure appropriate target selection and neutralization. The staff must detect, locate, and assign priorities in relation to other battlefield activities. Afterwards, it selects an appropriate weapon system to attack the target. During the C^3CM process, deconfliction is a critical step in determining priority, availability, and courses of action.

Planning

Deconfliction of C^3CM operations is an integral part of the planning and execution process. Deconfliction planning is a means of weighing resource conservation against the desired results. Planners must consider the effects of C^3CM actions on friendly operations.

Deconfliction planning is a necessary step in the C^3CM process. Planning is important to the success of any C^3CM strategy. Success is dependent upon the degree to which the staff planners integrate the deconfliction process in the overall staff planning cycle.

Process

The deconfliction planning process should start with the issuance of the commander's guidance. Based upon the commander's guidance, the J3, J2, J6, and the joint commander's electronic warfare staff (JCEWS) will deconflict the C^3CM strategy. Figure 1-1 shows the C^3CM functions, responsibilities, and required coordination.

Airlift and special operations forces. Deconfliction of C^3CM operations is essential to all forces, including airlift and special operations forces. For example, airlift aircraft require target and mission deconfliction through close coordination between the tactical air control center (TACC) and airlift control center (ALCC). This is particularly important when conducting direct delivery missions to engaged combat forces and cross-forward line of own troops (FLOT) missions.

Deconfliction, especially frequency deconfliction, is performed between the TACC and ALCC or the Air Force special operations command

[2]*Battlefield Spectrum Management Deconfliction,* 23 May 1985.

Function[1]	Staff Responsibility	Coordination
C^3CM	J3/G3	J2/G2, FSE, J6/CEO, J5
Intelligence	J2/G2	J3/G3
EW Support	J2/G2	J3/G3, FSE, J6/CEO
OPSEC	J3/G3	All
Deception	J3/G3	J2/G2, J6/CEO, J5
Destruction	J3/G3	J2/G2, FSE as appropriate
Deconfliction	J3/G3	J2/G2, J6/CEO, FSE

[1]The TACC performs these functions for the air component commander.

Figure 1-1. Staff Responsibilities for C^3CM

(AFSOC) element. Proper frequency deconfliction prevents aircraft equipment degradation and loss of electronic countermeasures (ECM) effectiveness.

Electronic warfare. Managing EW-produced electromagnetic (EM) interference requires the cooperation of all commanders and their staffs and results in the realization of EW as a combat force multiplier.

The first step in the process of EW deconfliction involves planning for the most effective employment of ECM assets against hostile targets while protecting friendly receivers from unintentional jamming. Following the commander's guidance, the J3 defines the concept of operations to include TABOO, GUARDED, and PROTECTED functions and frequencies. The J3 approves the joint restricted frequency list (JRFL) and establishes the joint commander's electronic warfare staff to facilitate EW operations. The J6 develops the frequency management plan and closely coordinates with the J2, J3, and electronic warfare officer (EWO). The EWO is responsible for publishing and disseminating the JRFL. The EWO develops the EW target list, after considering input from the J2, J3, and J6, and assists in developing the JRFL.

The second step of EW deconfliction includes maintaining and updating the JRFL, as well as resolving conflicts. The J3 is responsible for maintaining and updating the JRFL throughout an operation as functions and frequencies change or as expected time lines differ from planning. Conflict resolution begins when an operator of friendly communications or noncommunications equipment experiences EM interference.

The EW deconfliction process starts with a meaconing, intrusion, jamming, and interference report that identifies the interference. The J6 analyzes the interference to determine its possible cause. If the analysis indicates interference is from enemy activities or is from an unknown source, the J6 recommends remedial action or takes action to alleviate the interference. The J3 takes appropriate action if the interference is from friendly ECM activities and occurs on a TABOO, PROTECTED, or GUARDED frequency. These actions should resolve any self-induced interface.

Coordination

A wide range of actions and activities needed to achieve a successful operation is involved in C^3CM. Equipment, forces, and operational tasks that contribute to C^3CM may be used in other capacities. Achieving an integrated mix of these actions against the correct targets, at the optimum time, makes C^3CM a complex and demanding task. Assets which are C^3CM-capable will be used in conjunction with other priorities. C^3CM integrates and supports the theater commander's strategic concept or the subordinate commander's operational concept. As such, C^3CM is part of a theater strategic and operational plan.

Application

Army Approach

AR 525-20[3] contains Army C³CM policy. The Army uses C³CM to enhance combat effectiveness on the battlefield. If employed with the proper mix of operations (for example, jamming and physical destruction) at the proper time and against the correct targets, C³CM measures can provide a military advantage. C³CM activities are conducted to support the commander's concept of operations and scheme of maneuver.

The staff planning and decision-making process will define the targets to be engaged, the desired effects, and the desired time for engagement. The process will also define threat collectors to counter in support of the commander's concept or deception story. Commanders may direct C³CM actions against a range of threat targets to influence deep, close, and rear operations. These actions will vary according to echelon, available assets, targets of interest, and time and space dimensions.

Deception is used as a means of influencing the enemy decision maker via his own surveillance and intelligence systems. OPSEC measures, to include smoke, obscurants, camouflage, and decoys, are primarily directed toward enhancing survivability of friendly forces and protecting their intentions. Deception and OPSEC measures employed by the Army share the objective of misleading the enemy decision maker into specific but erroneous courses of action. Deception and OPSEC measures also delay, disrupt, or divert the enemy's plans and actions. C³CM targets for the Army span the entire battlefield, and results from C³CM actions may not be seen for several days. The OPSEC planning sequence the Army uses addresses OPSEC from the battalion level upwards. Every type of Army operation, exercise, or project must identify and control vulnerabilities regardless of echelon.

Each echelon may take specific C³CM measures to support rear, close, and deep operations. For example, C³CM which result in a delay in the commitment of follow-on forces may impact on the force ratio. Similarly, efforts which result in successful misdirection of the enemy may provide commanders with increased time to maneuver and concentrate their forces. The use of C³CM will increase the friendly, tactical advantage if done at the critical time and against the critical node.

Air Force Approach

The Air Force is highly dependent upon C³ for effective application of combat power. Consequently, relative combat power can be favorably affected by superior C³, which is the ultimate objective of an effective C³CM strategy. The fundamental elements of C³—processors, decision makers, communicators, and intelligence collectors—are vulnerable in varying degrees to weapons effects, jamming, deception, and OPSEC. Successful C³ depends upon a rapid flow of accurate information, using integrated networks within these fundamental elements. Actions that degrade one or more of these elements tend to degrade the C³ network as a whole.

The Air Force incorporates much of the C³CM strategy under the broader aspects of what it terms electronic combat (EC). In Air Force terms, EC includes EW, elements of C³CM that involve the EM spectrum, and portions of the suppression of enemy air defenses (SEAD) that are directed against an enemy's EM capabilities (see Figure 1-2). The Air Force considers C³CM to be one key means to achieve superiority in the EM spectrum, which is a critical combat element.

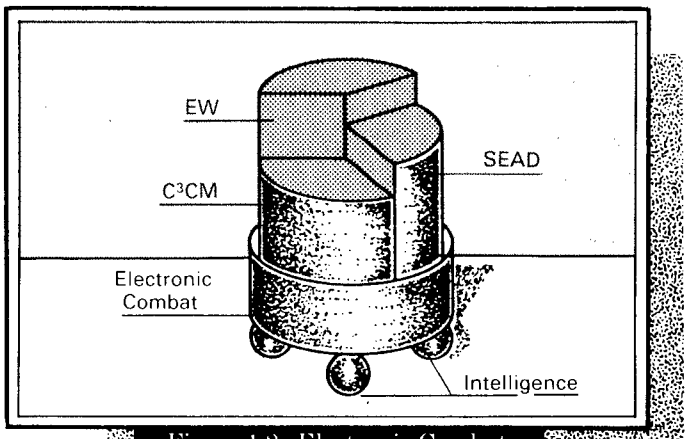


Figure 1-2. Electronic Combat

[3]*Command, Control, and Communication Countermeasures Policy,* 1 July 1981.

AFR 55-50[4] and the 55-series of Air Force regulations and manuals[5] contain Air Force C³CM policy. These publications cover OPSEC, deception, ECM, electronic counter-countermeasures (ECCM), and other C³CM-related matters. Development of specific tactics, techniques, and procedures for C³CM operations varies with each theater and available assets. The actual employment of C³CM support assets depends on the target systems, threat, and mission objectives. Specific concepts of employment of C³CM jamming assets such as COMPASS CALL are undergoing refinement and review.

The Air Force Tactical Air Warfare Center, the 28th Air Division at Tinker Air Force Base, OK, and the 65th Air Division in Europe are the focal points in the Air Force to evolve the best tactics for using C³CM to support the Air Force's primary combat missions.

Electronic combat is a specialized task performed by the Air Force to support operations against the enemy's EM capabilities.[6] Specialized tasks are aerospace operations performed in direct or indirect support of Air Force missions such as strategic aerospace offensive, strategic aerospace defensive, counterair, air interdiction, close air support, special operations, airlift, aerospace surveillance and reconnaissance, and aerospace maritime operations.

COMPONENTS

The four fundamental functions of C³CM are destruction, disruption, deception, and denial. These functions generally correlate with the four principal components within the definition of C³CM: physical destruction, jamming, military deception, and OPSEC, respectively (see Figure 1-3). Each function is valid for countering adversary C³ and protecting friendly C³. Maximum military effectiveness of C³CM operations is normally attained when commanders integrate two or more of these functions.

Commanders may take C³CM actions before the outbreak of hostilities. For example, commanders may employ deception and OPSEC to enhance the survivability of friendly forces by degrading a potential enemy's intelligence-gathering capability without causing an act of war.

Physical Destruction

Physical destruction is the fully coordinated use of lethal assets to suppress, neutralize, or destroy enemy troops, equipment, and/or facilities. This method enables friendly forces to physically destroy enemy C² functions. Applying limited-destruct resources requires the capability to accurately locate and prioritize enemy targets.

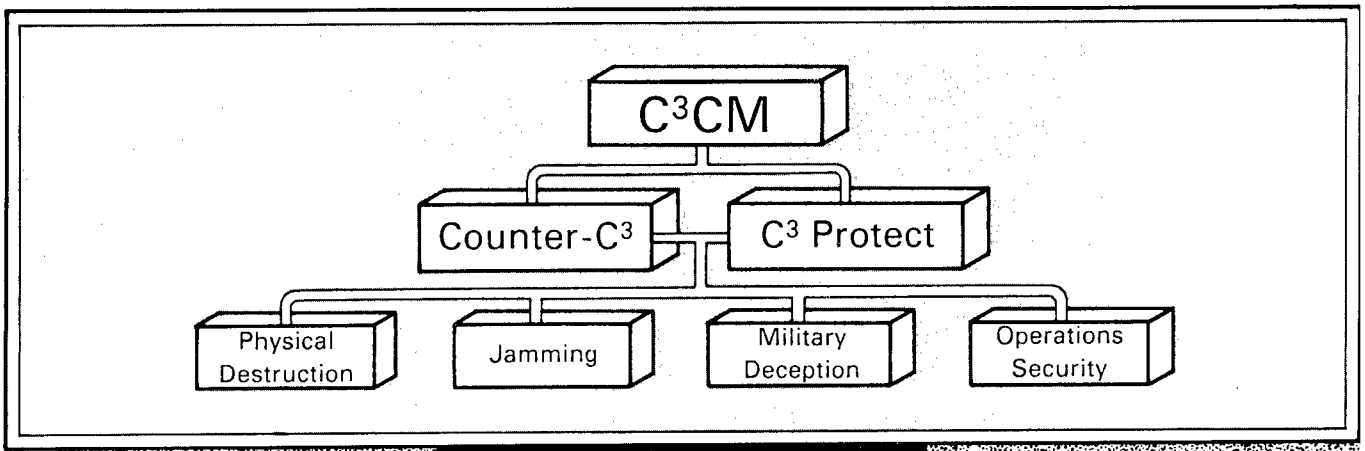


Figure 1-3. Four Components of C³CM

[4](C) *Command, Control, and Communications Countermeasures Policy*(U), December 1985.

[5]Operations series.

[6]*Electronic Combat Operations*, AFM 2-8, 30 June 1987.

Jamming

Jamming is the deliberate radiation or reradiation of EM energy to prevent or degrade the reception of information by a receiver. In general, the effectiveness of jamming depends on—

- Relative power between transmitter and jammer.
- Relative distance between transmitter, jammer, and receiver.
- Terrain barriers.
- Use of a directional antenna.

Communications jamming is targeted against hostile communications systems for many purposes. First, it introduces delays into the hostile C^2 system that allows the friendly commander time to fully exploit his options. Secondly, hostile, time-critical information can be delayed until it is no longer useful. Thirdly, in conjunction with intelligence collection, communications jamming can be used to force the enemy into actions that are useful to friendly operations. For example, secure communications can be targeted for jamming to force the enemy to transmit in the clear and become exploitable for combat information. Communications jamming can also aid in direction finding by forcing the enemy to transmit longer. Longer transmissions allow time for detection and multiple lines of bearing from different locations for position determination.

Noncommunications jamming is directed against such electronic devices as radar, navigation aids, and guidance systems. Currently, the Army does not have any offensive airborne noncommunications jamming capability. If such support is needed, the JFACC must provide it.

Jamming against communications and noncommunications equipment is accomplished using spot, sweep, or barrage jamming.

Spot Jamming

Spot jamming may be directed at a single frequency or multiple frequencies through—

- Sequential spot jamming, in which various frequencies are jammed one at a time in sequence.
- Simultaneous multispot jamming, in which several frequencies are jammed at the same time.

In both spot and sequential spot jamming, the full power of the jammer is directed against one frequency at a time, increasing the effectiveness and range of the jammer. Spot jamming is less likely to interfere with friendly communications because receivers and transmitters can easily avoid it by slightly changing (detuning) the frequency they are receiving.

Sweep Jamming

In sweep jamming, the jammer goes through a frequency range then repeats the sweep continuously. All frequencies in the range are jammed. Friendly frequencies may be affected unless protected by the JRFL.

Barrage Jamming

Barrage jamming, unlike spot jamming, simultaneously spreads the jammer's power over a much larger portion of the frequency spectrum, thereby reducing the radiated power directed at any single target frequency. Barrage jamming is similar to sweep jamming, since all frequencies are jammed within the targeted portion of the spectrum.

Military Deception

JCS Publication 1-02 defines military deception as follows:

> Actions executed to mislead foreign decisionmakers [sic], causing them to derive and accept desired appreciations of military capabilities, intentions, operations, or other activities that evoke foreign actions that contribute to the originator's objectives.

Tools

Deception tools include measures designed to mislead the enemy by manipulating, distorting, or falsifying evidence to induce it to react in a manner counter to its interests. In protecting friendly C^3 capabilities, commanders can use

battlefield deception to inject ambiguity into the enemy's decision-making process, thus slowing the enemy's ability to respond to the current situation. Such deception is accomplished by many means, including portraying false friendly intentions, capabilities, and dispositions. These means can cause the enemy to—

- Mass or disperse.
- Hold in place or commit.
- Commit prematurely or too late.
- Adopt inappropriate force configurations.
- Adopt a style of maneuver inappropriate to its operations.

Furthermore, electronic means of battlefield deception can result in development of false target and situation data through the use of imitative communications deception, manipulative electronic deception, and simulative electronic deception.

Imitative communications deception is the injection of false and misleading information into the enemy's communications nets.

Manipulative electronic deception is the transmission of false information on friendly communications nets to mislead the enemy.

Simulative electronic deception is used to mislead the enemy as to the composition, deployment, and capabilities of friendly units by simulating communications of those forces.

These deception methods effectively degrade the enemy's C^3 capabilities by making the enemy question its intelligence and by interfering with its decision-making cycle.

Common Factors

All deception operations have the following common factors:

Objective. The deception objective is the desired enemy action or inaction as it relates to the accomplishment of the mission. The commander should determine the deception objective before selecting a course of action.

Story. The deception story can be any false or true cover story provided to mislead the enemy. The enemy may then make an incorrect decision, putting it at a tactical disadvantage in terms of friendly, true intentions. The deception objective can be met if the deception story delays an enemy's decision cycle, resulting in untimely decisions. For the deception story to be even partially successful, the enemy must evaluate it from its point of view according to the criteria in Figure 1-4.

Target. The deception target is the enemy commander with the authority to make the decision necessary to achieve the deception objective. While the deception story must deceive analysts and staff officers, it must convince the commander since he is the decision maker.

Notional order of battle. The notional order of battle (NOB) is the force that deception planners will portray in the deception plan. NOB should not be confused with the existing task organization. Planners will prepare NOB as a tab to the deception annex and include the order of battle for the entire force, showing what each subordinate unit must portray. Certain elements or all of the NOB should be passed to the enemy.

Evaluation. Intelligence is a prime ingredient required for evaluating the effectiveness of a deception operation. While deception operation results may vary, the intelligence staff should evaluate all with the following questions in mind:

- Was the deception story implemented, observed, and received as planned?
- Does evidence indicate that the operation influenced enemy decisions or actions?
- Did enemy reactions or actions indicate that the deception was accepted?
- Did the enemy react as planned?
- Did the deception support the primary mission?

Operations Security

Operations security is a process of analyzing friendly actions attendant to military operations and other activities to—

- Identify those actions that adversaries can observe.

Believability

The story must be consistent with the enemy commander's perception of our real capabilities and probable intentions. Therefore, the indicators being displayed to the enemy must be within our capabilities as the enemy perceives them. Information easily obtained is readily discounted.

Verifiability

The various information collection agencies must be convinced of the validity of the pieces of information they have gathered from a variety of sources. Information collected through one source will be verified through other collection sources before it will be given credibility.

Consistency

Having decided upon a particular deception story, the planner must ensure that all actions (both real and notional) are consistent with the story. For example, an effort to portray a withdrawal (to cover an actual impending attack) can be compromised by enemy photographic or direction-finding efforts if those collection means are allowed to discover large formations approaching the battle area. Also, it might be better to develop a different story rather than attempt to present a story in a manner inconsistent with doctrine. Deception stories should reflect current US doctrine and be consistent with the enemy's perception of our battle and campaign plans and objectives.

Simplicity

As in all other military undertakings, the simple plan is usually the successful plan. Planners should reject actions which add complexity to the deception plan, without improving the chances for the overall success. Complexity should not, in itself, cause the elimination of the effort, but it will cause a greater need for coordination and deconfliction of activity.

Figure 1-4. Story Criteria

- Determine indicators that hostile intelligence systems might obtain which could be interpreted or pieced together to derive timely, critical information useful to adversaries.

- Select and execute measures that eliminate or reduce to an acceptable level the vulnerabilities of friendly actions to adversary exploitation.

Every member of the command or agency is responsible for OPSEC. It consists of two major categories—countersurveillance and other measures—which are interrelated. Members must consider both categories for all operations and activities. Neither category requires OPSEC systems, but relies on a unit's doctrine, equipment, and training to enhance the effectiveness of security.

Countersurveillance

Countersurveillance denies the enemy information in the visual, infrared, radar, radio, microwave, and sonic portions of the energy spectrum. It includes the use of camouflage, heat shields, reflectors, noise and light discipline, smoke, obscurants, other limited visibility conditions, and other measures that prevent the enemy from seeing friendly activities. The countersurveillance program includes the following:

Physical security is the protection of operational activities and facilities by using security forces, barriers (obstacles such as concertina, explosives, flames, field expedients), or anti-intrusion devices. Physical security provides the means to deny or limit enemy access to information that might be gained through espionage or other unauthorized entry to our facilities.

Signal security (SIGSEC) encompasses communications security (COMSEC) and electronic security (ELSEC). COMSEC includes the use of communications codes, secure voice or data equipment, and approved procedures to protect friendly communications. ELSEC includes the use of techniques to reduce operating time and to properly position radar and antennas to protect friendly command and control.

Information security is the protection of written, verbal, and graphic communications, both classified and unclassified.

Emission control (EMCON) is the selective and controlled use of electromagnetic, acoustic, or other emitters to optimize C^2 capabilities. For OPSEC, EMCON minimizes the enemy's detection and exploitation of friendly emissions. It also minimizes mutual interference among friendly systems and/or executes a military deception plan.

Other Measures

Other measures to overcome specific aspects of adversary intelligence-gathering efforts by exploiting known friendly OPSEC vulnerabilities are—

Counterintelligence, which includes those activities concerned with identifying and counteracting the threat to security posed by a hostile intelligence service or organization or those activities by individuals engaged in espionage, sabotage, subversion, or terrorism.

Electronic counter-countermeasures, which include that division of electronic warfare involving action to ensure effective friendly use of the EM spectrum, despite the enemy's use of electronic warfare.

Intelligence Support

Intelligence support to the C^3CM process begins upon receipt of the mission. The C^3CM process includes target detection, location, and identification. The support staff collects and analyzes data from a variety of sources. Some C^3CM collection sources are signals intelligence (SIGINT), human observers, and imagery.

After the intelligence staff identifies potential counter-C^3 targets, it makes a criticality and vulnerability assessment of the targets' relative contribution to the enemy's order of battle. Input via the fragmentary order can give additional targets and C^3 protection. Using all available sources of information, the intelligence staff recommends selection and priority of C^3 targets to the J3 or joint force commander (JFC). The intelligence staff nominates targets by priority, using an analysis of resources available versus input on friendly forces from the J3 and/or JFC.

After the intelligence staff nominates targets, the C^3CM process shifts to an operational focus, where mission planning and execution are primary considerations. When the results of the C^3CM effort are collected, the intelligence staff evaluates the input to determine the impact on enemy operations.

Because of the expansive amount of information that intelligence personnel must collect, filter, correlate, and act upon, any degradation must be minimized. The stress of continuous operations means leaders must manage competing requirements in an effective manner. This management requires operations and intelligence staffs to wargame different alternatives to determine recommended approaches and then allot the time to prioritized collection. Effective management of competing requirements becomes absolutely critical.

Intelligence for the C³CM effort must support the overall concept of operation (see Figure 1-5). In order for the J2 to select relevant C³ targets or target sets, intelligence information must focus on the commander's intent and concept of operation. Through sensors and the intelligence staff's estimate of the battlefield, intelligence preparation of the battlefield (IPB) supports intelligence estimates. The commander uses the intelligence and operations estimates to plan friendly operations. Planners anticipate enemy responses so that C³CM operations are timely and effective. Planning and coordination actions necessary to detect and attack specific targets must be accomplished early enough to allow synchronization of required sensors, weapons, and communications.

The intelligence staff provides information for critical decision making throughout the C³CM process. The intelligence system supports the analysis of friendly C³ vulnerabilities, threat collection, and lethal attack systems. Intelligence support must accurately target specific enemy C³ functions which aid both the counter and protect components of C³CM.

The intelligence staff supports the C³ protect mission by using counterintelligence. It identifies and locates enemy threats to friendly C³ and targets for jamming and destruction. These targets either represent a threat to friendly C³ operations or are enemy functions that must be countered. Intelligence information supports the C³CM components (see Table 1-1).

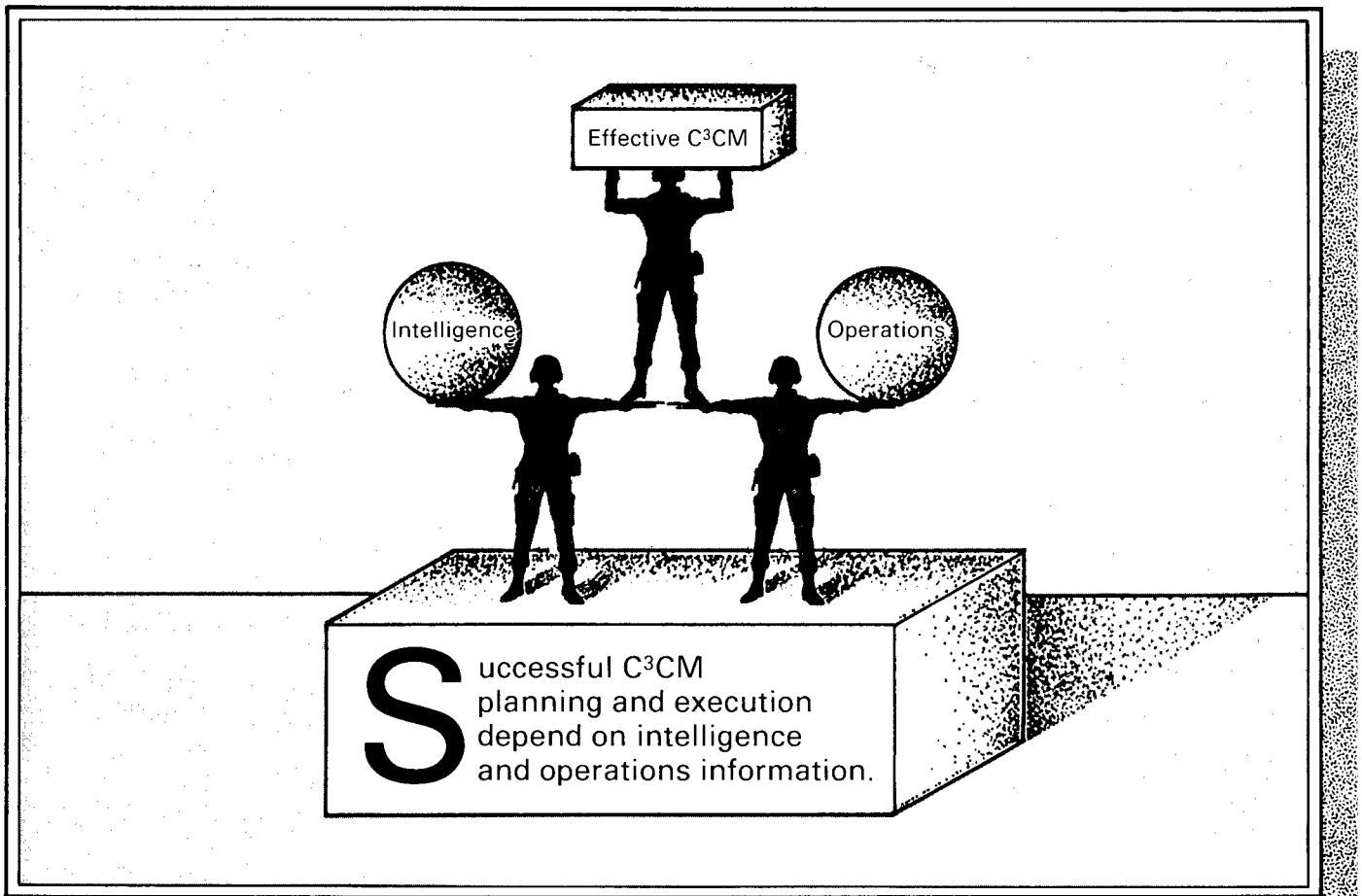


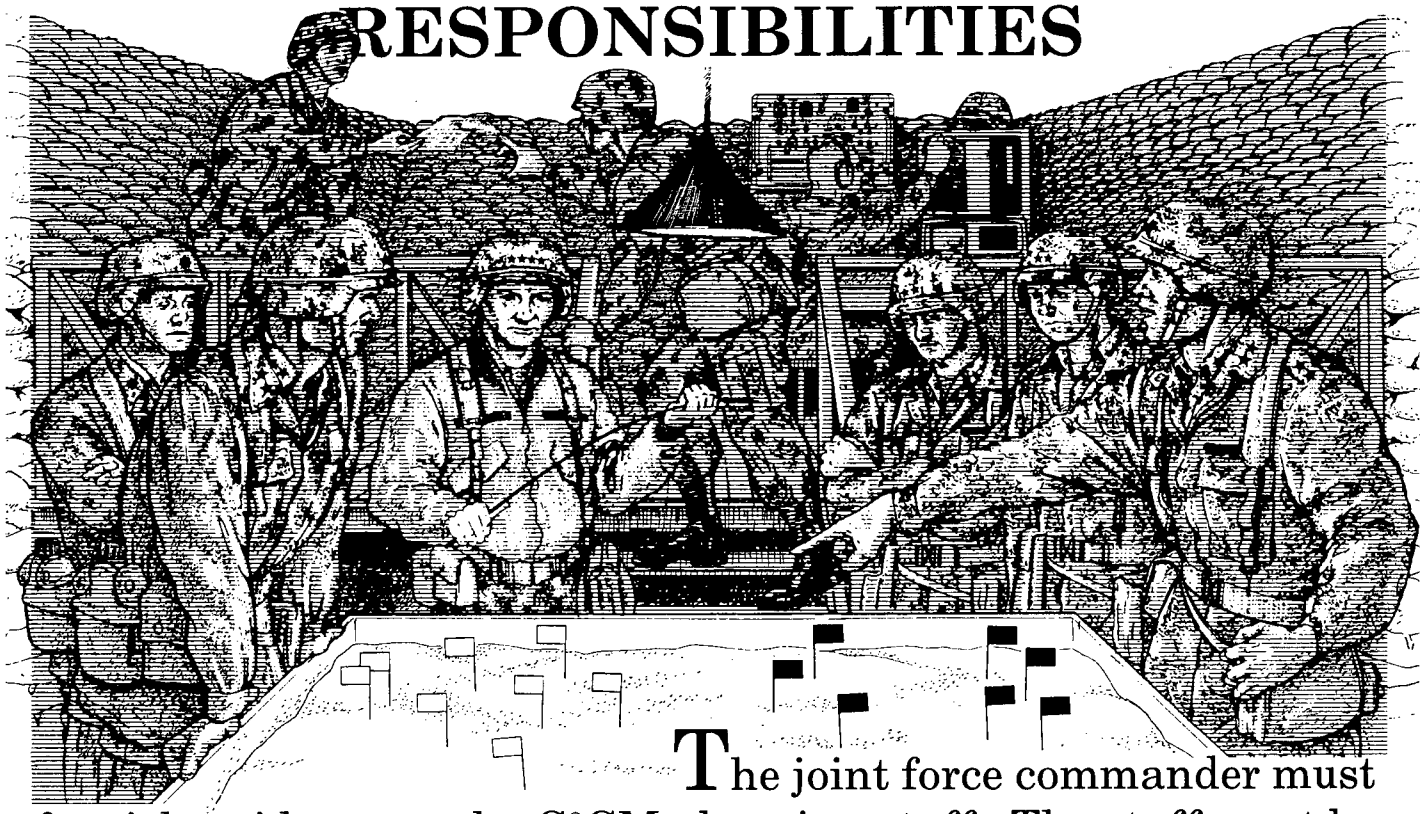
Figure 1-5. Intelligence and Operations Support of C³CM

C^3CM Components	Intelligence Support
Destruction Jamming Deception OPSEC	Target identification Target location Time for optimal attack Battle damage assessment Intelligence preparation of the battlefield
	Target location Electronic preparation of the battlefield Frequencies, critical nodes, modulations, and link distances Time for optimal attack Battle damage assessment Joint restricted frequency list
	Identification of deception targets Selection of believable story Identification of enemy order of battle to include intelligence collection system Placement of multispectral deception activities Analysis of deception Feedback on deception
	Friendly vulnerability assessments Identification of C^3 threat Denial of friendly capabilities and intentions Evaluation of tactical deception communications

Table 1-1. Intelligence Support of C^3CM

Chapter 2

RESPONSIBILITIES



The joint force commander must furnish guidance to the C^3CM planning staff. The staff must be capable of near real time response to changes in the situation. When attacking threat C^2 functions, friendly forces must react more rapidly to situations and opportunities than threat forces. Planners of C^3CM must—

- Fulfill the commander's intent.
- Synchronize counter C^3 actions.
- Rely on timely and accurate intelligence support.
- Be able to operate inside the enemy decision cycle.
- Know the enemy's SOP, doctrine, capabilities, norms, and battle drills.
- Know the enemy's C^3 system in detail.

JOINT FORCE COMMANDER AND STAFF

Joint Force Commander

C^3CM functions at the joint force level primarily involve planning and evaluation. The highest C^3CM planning level is the joint force commander and staff. The JFC provides guidance on land, air, and maritime operations. The JFC can issue guidance as a concept of operation which contains specifics for C^3CM. The JFC must ensure the timely publication of guidance and priorities for the C^3CM plan so that components have enough time to develop supporting plans. The JFC's guidance should, at a minimum, include—

- A brief narrative assessment of the enemy's C^3 structure.
- The JFC's specific C^3CM objectives.
- Development requirements for C^3CM plans to meet joint force C^3CM objectives.
- Guidance for planning use of resources.
- Assets retained at the joint force level which may be requested for C^3CM, such as COMPASS CALL.

Even though the JFC is responsible for C^3CM, the components normally execute C^3CM operations. The planning and evaluation phase at the joint force level is an ongoing cycle which consists of three steps.

- Step 1. Monitor and evaluate the feedback of C^3CM operations.
- Step 2. Recommend adjustments to current C^3CM operations based on evaluation of feedback and current component capabilities.
- Step 3. Coordinate and issue approved adjustments to the joint force operations as required.

The JFC's staff monitors C^3CM through existing command, control, communications, and intelligence (C^3I) facilities and evaluates the impact of C^3CM on both friendly and enemy activities.

J2

The joint force J2 and staff maintain an all-source intelligence collection effort; develop an intelligence data base for C^3CM; and, in concert with the J3, develop a recommended C^3CM target list. The J2 should focus the collection and analysis effort on enemy capabilities, enemy intentions, and the enemy's critical C^2 nodes. In addition, the J2—

- Plans, collects, processes, produces, and disseminates intelligence.
- Coordinates intelligence planning and operations of component commands.
- In coordination with J3 recommendations, validates and prioritizes intelligence collection requirements that need to be satisfied by other than assigned resources.
- Coordinates counterintelligence and recommended security measures that protect the joint force C^2 nodes.
- Collects and updates enemy ground, air, and electronic order of battle and updates the current situation.
- Provides a list of prioritized targets and other intelligence data to the joint targeting coordination board (JTCB).
- Assists the J3 on the JTCB.
- Incorporates updated enemy intelligence reports to imagery intelligence (IMINT), human intelligence (HUMINT), signal intelligence (SIGINT), communications intelligence (COMINT), electronics intelligence (ELINT), instrumentation signals intelligence, measure and signature intelligence (MASINT), and counterintelligence.
- Refines OPSEC planning guidance.
- Conducts intelligence activities to eliminate OPSEC vulnerabilities.
- Supports military deception operations.
- Incorporates combined operations input into the intelligence collection effort.

J3

The J3 plans, conducts, directs, supervises, executes, and evaluates C^3CM for the JFC. The J3 also—

- Makes C^3CM an integrated part of the operations planning process.

- Plans for personnel and recommends task organization assets to support C^3CM priorities and objectives.
- Maintains constant coordination with the other component commanders.
- Monitors C^3CM activities.
- Assists in developing C^3CM priority intelligence requirements and EEFI to support the JFC's guidance and objectives.
- Reviews component operations plans (OPLANS) to ensure they support the C^3CM plan.
- Plans and conducts C^3CM in operations and tactical training exercises.
- Ensures J2 intelligence and other appropriate intelligence agencies closely coordinate and support C^3CM.
- Knows the quantity, operational status, and location of unique, dedicated, or specifically tasked C^3CM support assets.
- Is responsible for the joint targeting coordination board.
- Promptly forwards appropriate intelligence to higher headquarters and national agencies.

J6

The J6 develops the frequency management plan and the C^3 protect plan and closely coordinates C^3CM issues with the J3, J2, and JCEWS. The J6 is responsible for spectrum management and provides a representative to the JCEWS. The representative is responsible for publishing and maintaining the joint restricted frequency list after the J3 approves it. The J6 also ensures that the J3, J2, and JCEWS coordinate the TABOO, GUARDED, and PROTECTED frequencies (see glossary for definitions). In addition, the J6—

- Ensures that EW, C^3CM, and joint force communications are deconflicted.
- Ensures that EMCON procedures which authorize, control, or prohibit the use of electronic emission equipment, OPSEC, and deception do not interfere with one another.
- Ensures that operational codes are available at all commands.
- Provides components with frequencies, call signs, and COMSEC procedures.
- Works closely with the J2 and J3 on EW, C^3CM, and targeting boards.
- Reviews component OPLANS to ensure they support the C^3 protect plan.

C^3CM Cell

The JFC should organize a joint C^3CM cell to coordinate targeting information, provide targeting guidance and priorities, and prepare or refine joint target lists (JTLs). The J3 or his counterpart normally chairs the C^3CM cell. The cell consists of representatives of the J2, J6, fire support element (FSE), and other staff elements and components as appropriate. The J3 normally conducts C^3CM cell meetings daily to—

- Disseminate the JFC's targeting guidance and objectives.
- Monitor the effectiveness of targeting efforts.
- Coordinate and deconflict all joint task force (JTF) targeting operations.
- Validate no-fire areas.
- Approve new target nominations for inclusion in the JTL.

The J3 should provide results of meetings to components or supporting forces. Results include additions or changes to no-fire areas and the JTL, modifications to JFC C^3CM strategy, and summaries of daily BDA reports received from components or supporting forces.

Joint Targeting Coordination Board

The JFC may organize a joint targeting coordination board to coordinate targeting information, provide targeting guidance and priorities, prepare or refine JTLs, and deconflict lethal and nonlethal assets for C^3CM operations. The J3 or his counterpart chairs the JTCB. Other staff directorates and components provide representatives. The JTCB should, at a minimum, include component representation as well as representation from TACC and electronic combat (EC) planning cells. Input from the combined staff element, if applicable, is also used to prepare the C^3CM JTL. The JTCB should meet daily to—

- Disseminate JFC targeting and EW guidance.
- Monitor the effectiveness of lethal or nonlethal targeting efforts.
- Coordinate and deconflict JTF operations.
- Confirm fire support coordination measures.
- Approve new target nominations for inclusion in the JTL.

The JTCB should also ensure that each component's C^3CM operations are not only deconflicted, but also mutually supportive and focused on the JFC's overall campaign plan C^3CM strategy. The JTCB is not intended to replace the joint commander's electronic warfare staff. However, the JCEWS should integrate the planning conducted by both lethal and nonlethal C^3CM planners.

The JTCB should provide the following results to component or supporting forces:

- Additions or changes to fire support coordination areas and the JTL.
- Modifications to JTF C^3CM targeting and EW operations.
- Summaries of combat assessments and BDA reports received from component or supporting forces.

Electronic Warfare Staff

The JCEWS, which is usually located in the joint operations center, assists the JFC and J3 in coordinating EW operations. It consists of, but is not limited to, elements of the J2, J3, FSE, and J6. The JCEWS provides each component the flexibility to satisfy its EW requirements consistent with the need to avoid mutual interference with friendly systems.

The JCEWS coordinates with the J2, J3, and J6, and other appropriate staff officers. In addition to advising and assisting the J3 in accomplishing EW operations to support the C^3CM strategy, the JCEWS—

- Coordinates EW operations.
- Monitors the status of EW resources.
- Assists in deception planning.
- Coordinates with the J2 for SIGINT and electronic warfare support measures (ESM) data required for planning and coordinating EW operations.
- Coordinates with the J6 to ensure ECM do not interfere with friendly C^3.

Deception Staff Element

A focal point for deception planning and execution is crucial to successful deception operations. At the joint force level, the deception staff element (DSE) plans, coordinates, and monitors deception operations. The DSE is headed by a deception officer who reports directly to the J3. Other joint force staff members required to plan a particular deception are assigned to the DSE as needed. For example, the DSE should include representatives from the joint force special operations component (JFSOC) when it is part of the deception plan. In addition, representatives from the component staffs would participate in DSE activities as required. The DSE is responsible for—

- Planning deception activities based on the commander's guidance.
- Coordinating deception operations among components.
- Monitoring ongoing operations in order to plan future deceptions.
- Integrating C^3CM deception into overall theater campaign planning as requested by the C^3CM planning cell.

As members of the commander's operational staff, DSE personnel are familiar with the commander's desires, policies, and operational schemes. They function as a coordinated and integrated element to develop deception concepts and plans. The JFC designates DSE personnel based on expertise and the desired level of security. Generally, the three levels of DSE access are *commander only, limited staff, and full staff.*

Commander Only

The JFC keeps the details of deception planning to himself. He implements deception through direct orders to his staff and subordinate commanders. The staff and component commanders are never fully aware of the JFC's intentions. This technique has the advantage of high OPSEC and

presents virtually all the support patterns of an actual commander's plan. Potential disadvantages are—

- The lack of full staff expertise during planning and execution.
- The chance of the staff working at cross-purposes and degrading the effectiveness of the deception and the actual operation.

Limited Staff

The JFC details limited numbers of personnel from the joint staff to assist the deception officer in planning. The deception officer coordinates the completed plan with selected joint staff section heads and components and sends the plan to the JFC for approval. Expeditious handling and good OPSEC are advantages of this technique. However, the plan may fail to take full advantage of the collective expertise of the entire joint staff.

Full Staff

The JFC expands participation in the planning and execution to more elements of his staff. Additionally, deception officers from the component commands may also participate. This method uses the full resources and expertise of the joint and component staffs. Since more people are aware of the planned deception, OPSEC is more difficult.

COMPONENT COMMANDERS

The JFC executes C³CM through the various subordinate commanders assigned to the joint force. Based upon the JFC's guidance, subordinate commanders develop their concept of operations, assign missions, and allocate resources. Specific component responsibilities for C³CM include—

- Coordinating C³CM objectives, priorities, and procedures with the JFC and other components.
- Developing intelligence requirements based on priorities.
- Collecting intelligence on enemy C³ assets.
- Distributing intelligence on enemy C³ assets.
- Allocating available assets to support C³CM.
- Identifying and developing appropriate C³ targets for lethal and nonlethal attacks.
- Requesting C³CM support from other component commands.
- Establishing procedures for monitoring and providing C³CM mission results to the JFC and to other components.
- Executing C³CM operations to support the JFC's concept of operation.

Army Component Commander

The Army component commander (ACC) serves at one of two levels: as the component working for the commander in chief (CINC) or as the Army component working for a component JFC (subunified or joint task force). The Army recognizes the warfighting potential of C³CM to enhance Air-Land Battle combat effectiveness. Optimizing the synergistic effect of C³CM requires proper planning, coordination, and execution. At higher echelons, the Army Air-Ground System (AAGS) is found at the battlefield coordination element (BCE) or functional theater equivalent with its plans, operations, intelligence, and fusion sections. (See Appendix A for details.)

When the ACC receives a mission, he issues guidance to his staff. Each day, he determines the priorities for operations scheduled more than 96 hours in the future. He also updates and refines the priorities for the next day. The commander's guidance establishes three things: the commander's intent, a mission statement for the deep battle C³CM, and how the commander wants to divide the deep battle C³CM resources between the corps' deep operations and the component commanders' deep battle. In his guidance, the commander sets priorities for the Army's deep battle C³CM requirements. The C³CM operations and assets to support deep attack are—

- Interdiction (which includes strategic and/or tactical air forces, artillery, and special operations forces).
- Deception.
- Offensive EW (which includes Army and Air Force assets).

- Maneuver (which includes ground maneuver units, attack helicopters, and airborne and air assault forces).
- Nuclear and chemical weapons.

Close coordination between the Army and Air Force is necessary to optimize support, prevent friendly interference, and achieve success on the battlefield. The BCE provides the interface between the Army and Air Force units. The BCE is the Army's coordination element located at the JFACC's TACC. Its function is to monitor and analyze the land battles for the TACC and provide interface for exchange of current intelligence and operational data between components.

A continuous two-way information flow between the Army force (ARFOR) operations center and the BCE permits the BCE to integrate ARFOR C^3CM requirements. The BCE interprets C^3CM requirements for the TACC. The AAGS handles the C^3CM information exchange between the two components at the corps level and below. (See Appendix A, Figure A-2.)

Joint Force Air Component Commander

JCS Publication 1-02 defines the *joint force air component commander* (JFACC) as follows:

> The joint force air component commander derives his authority from the joint force commander who has the authority to exercise operational control, assign missions, direct coordination among his component commanders, and redirect and organize his forces to ensure unity of effort in the accomplishment of his overall mission. The joint force commander will normally designate a joint force air component commander. The joint force air component commander's responsibilities will be assigned by the joint force commander (normally these would include, but not be limited to, planning, coordination, allocation and tasking based on the joint force commander's apportionment decision) [to support C^3CM missions]. Using the joint force commander's guidance and authority, in coordination with other component commanders and other asigned or supporting commanders, the joint force air component commander will recommend to the joint force commander the apportionment of air sorties. . . .

Based upon the JFC's guidance, the JFACC may be assigned the responsibility to plan and conduct a C^3CM operation. When given the responsibility, the JFACC will—

- Assign C^3CM targets or objectives to component commanders.
- Plan and direct air support for C^3CM.
- Request C^3CM support from other component commands when required.
- Plan and coordinate C^3CM efforts with other components.
- Allocate air assets to support C^3CM.

Because of the scope of the air operations and the variety of missions, the JFACC headquarters tasks missions and delegates execution to component echelons.

The JFACC provides air assets to support the JFC C^3CM plan. Based upon the JFC's guidance, the JFACC will plan and conduct the C^3CM portion of the air campaign. This includes campaign C^3CM, campaign C^3CM target priorities, and localized C^3CM threat priority lists. Specific C^3CM responsibilities of the JFACC include—

- Planning and directing air support for C^3CM.
- Assigning C^3CM target objectives to component asset commanders.
- Requesting C^3CM support from other component commanders when required.
- Supporting other component commanders' C^3CM requirements.

Joint Force Special Operations Component Commander

JCS Publication 3-0 defines the *joint force special operations component commander* (JFSOCC) as follows:

> The commander within a unified command, component unified command, or

joint task force responsible to the establishing commander for making recommendations on the proper employment of special operations forces and assets, planning, and coordinating special operations, or accomplishing such operational/missions as may be assigned.

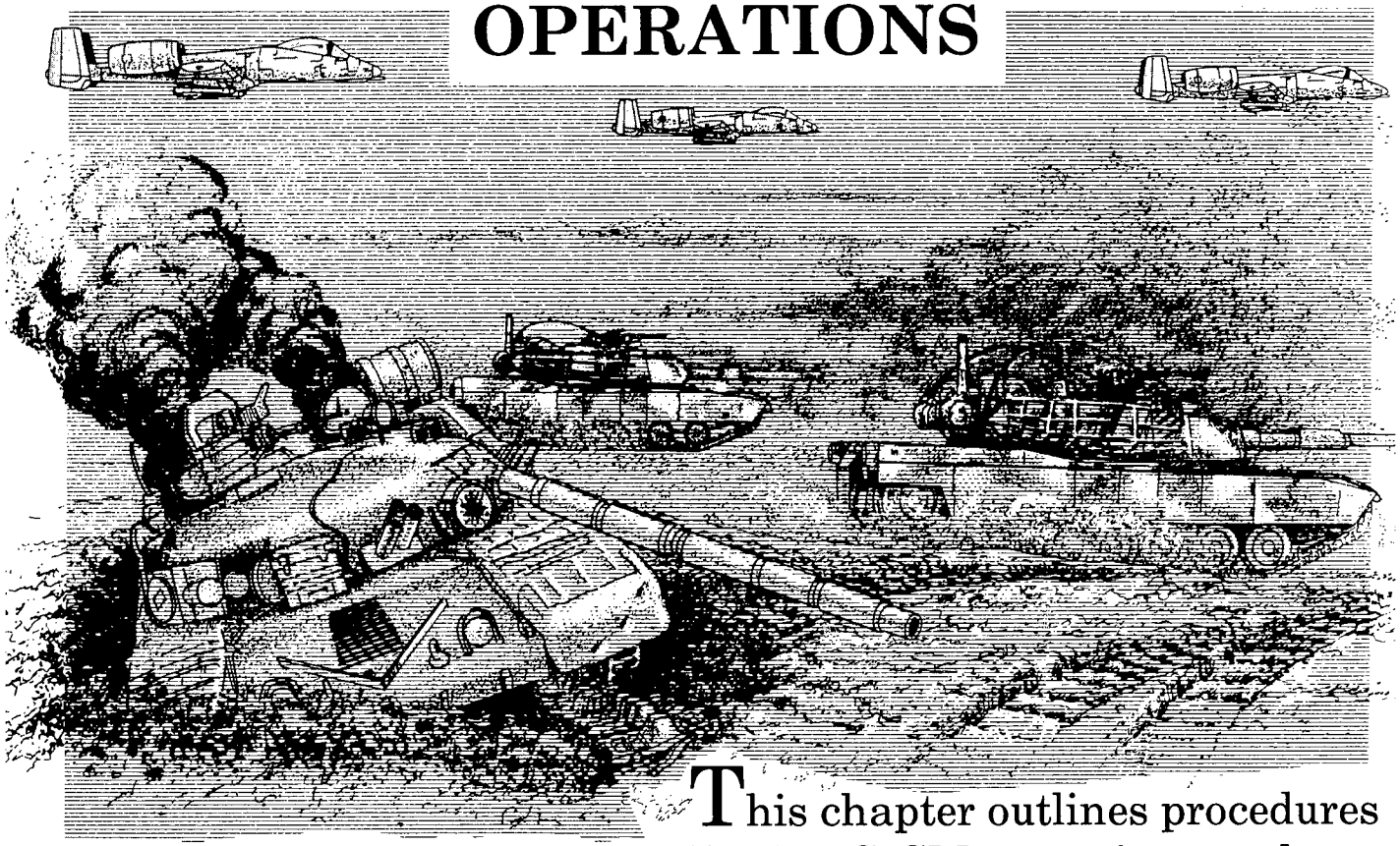
The JFSOCC will normally be the commander with the preponderance of special operations forces and requisite command and control capabilities. The JFSOCC provides special operations forces assets to support the JFC C³CM plan.

Based upon the JFC's guidance, the JFSOCC plans and conducts the special operations portion of C³CM operations. Specific JFSOCC responsibilities for C³CM include—

- Planning and directing special operations support for C³CM.
- Assigning C³CM targets to component forces in priority established by the JTCB.
- Requesting C³CM support from other component commanders when required.
- Providing appropriate representatives to the JFC joint C³CM cell, JTCB, DSE, and TACC.

Chapter 3

OPERATIONS



This chapter outlines procedures and concepts for developing effective C³CM operations and employing assets to support them. The key to understanding these concepts is realizing C³CM is part of a broad plan of action designed to support the theater's strategic and operational objectives. The CINC is at the strategic level of war. According to JCS Publication 3-0, the CINC has a theater strategy consisting of strategic concepts—one of which drives his theater campaign plan. To achieve strategic objectives and concepts for unified operations, the CINC provides operational direction to his subordinates. His subordinates plan and conduct campaigns and joint or individual component operations, often in a combined environment.

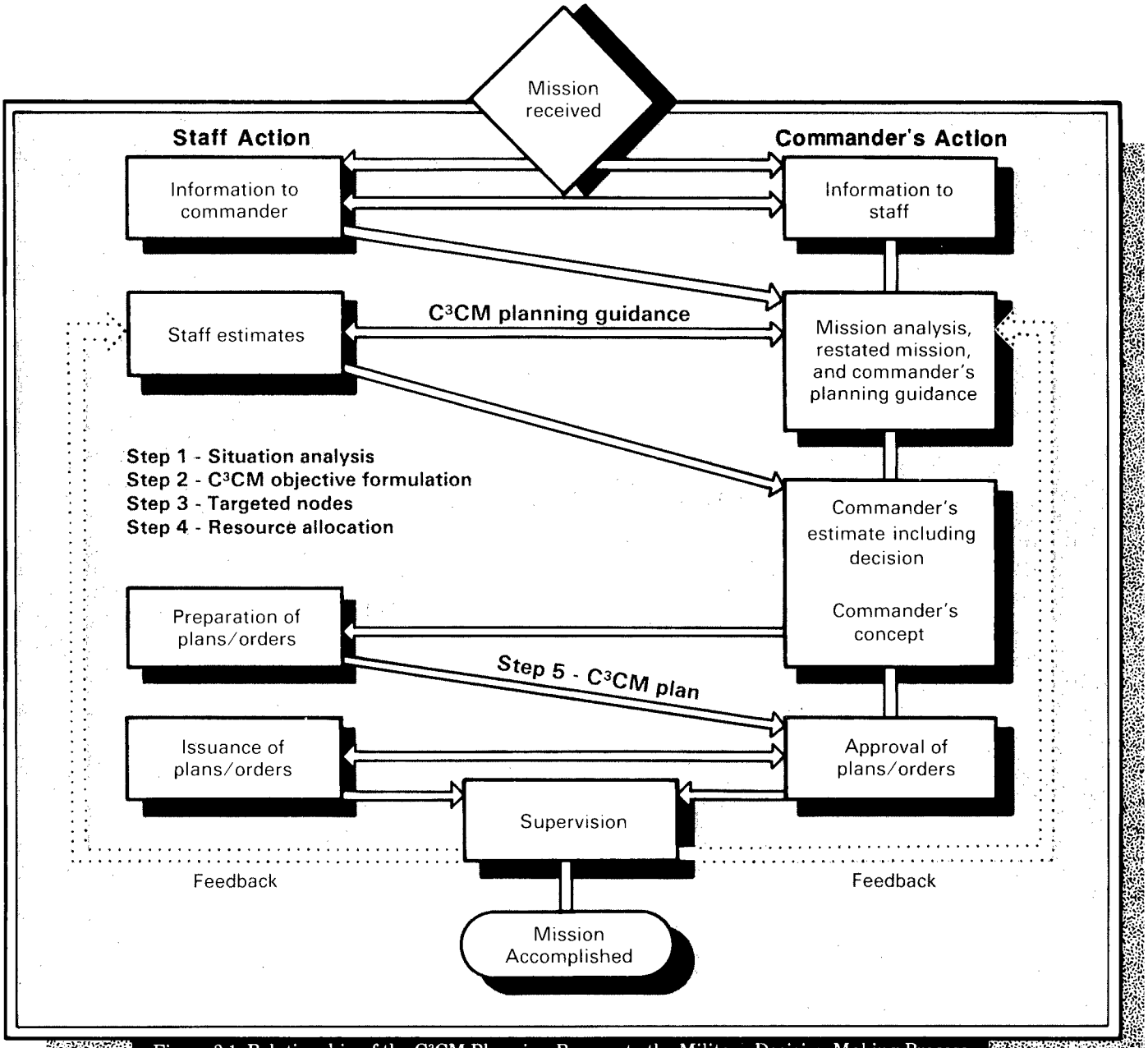


Figure 3-1. Relationship of the C³CM Planning Process to the Military Decision-Making Process

PLANNING

C³CM planning parallels and complements the normal sequence of command and staff planning actions (see Figure 3-1). When mission analysis begins, the commander and his staff must treat C³CM as a support requirement necessary to accomplish joint force operations and objectives. The J3 normally integrates C³CM planning into the proposed courses of action (COA) and deception operations and then incorporates them into the final plan. To conduct effective C³CM, the commander should consider the initial mission analysis, joint and component staff input, and enemy capabilities.

Following mission analysis, the JFC must give his staff enough initial guidance to begin working on the COAs to achieve the joint force mission objectives. Further, the JFC may provide specific C³CM guidance and objectives within the COAs. The joint force staff uses the commander's guidance as a starting point for preparing staff estimates.

The J3 develops multiple COAs, with supporting C³CM concepts, to accomplish the JFC's mission objectives. The J3 incorporates C³CM concepts into the operations estimate before presenting the COAs to the JFC for final selection. Weighing all known factors against mission objectives, the JFC selects the COA for planning and execution. The J3 then writes the basic concept of operations and the operations annexes.

The J3 should coordinate and refine the C³CM requirements and objectives with the JFC. The JFC develops the C³CM plan to use in the joint force concept of operations. The concept of operations should optimize the capabilities of the joint force and component C³CM.

TARGETING

Targeting, as defined by JCS Publication 1-02, is "The process of selecting targets and matching the appropriate response to them taking account of operational requirements and capabilities." This definition applies to any target regardless of size, characteristic, or value. The targeting methodology can be characterized as the *decide-detect-deliver* approach. This methodology facilitates the attack of the correct target at the critical time. A target is an enemy function, formation, equipment facility, terrain, or commander planned for capture, destruction, neutralization, or degradation in order to disrupt, delay, or limit the enemy.

Target requirement is based on the combat situation. The vast array of anticipated C³CM targets will generate competing demands for fire support and other counter-C³ means that could exceed the capabilities of the system. Using the decide-detect-deliver methodology, the commander establishes priorities on how and when to use counter-C³ measures to meet critical demands.

Phases

The three-phase approach enables the commander to take the initiative in selecting, locating, and attacking high-payoff targets.

Phase I - Decide

The decision phase provides the focus and priorities for the collection management and suppression planning processes. This phase is developed from the following:

- The intelligence estimate of the situation.
- The commander's mission analysis.
- The battlefield planning (which projects future friendly operations).
- A detailed estimate of the most probable enemy response to a projected friendly operation.
- A decision regarding options to deny the enemy means of interference.

This phase enables the commander to decide the high-payoff targets to locate, how to locate and attack them, and when to perform these actions in relation to the battle plan.

IPB and electronic preparation of the battlefield (EPB) provide much of the information for the intelligence estimate which influences the target development process. The IPB/EPB effort produces enemy order of battle formations and electronic emitters. IPB/EPB also helps identify high-value targets. The JCEWS produces the EPB which identifies lucrative C³CM targets that are important to the enemy's command and control.

When making C³CM decisions, planners should include the following elements of enemy deception capabilities:

- Dummy positions.
- Corner (radar) reflectors.
- Camouflage.
- Deceptive and imitative communications.

Finally, the decision must include the attack options that will give the desired results. A primary consideration is what the field commander wants: to disrupt, to limit, or to destroy enemy activity. The final decision for attack guidance rests with the commander.

Phase II - Detect

After targets are detected, they should be continuously monitored. The resources to detect potential C³CM targets are SIGINT, IMINT, HUMINT, and MASINT.

- SIGINT assets detect and locate enemy units, facilities, and battlefield functional systems based on the enemy's use of radios, radars, and beacons.
- IMINT assets [aerial exploitation] include imagery intelligence platforms (photographic/IR) and side-looking airborne radar (SLAR).
- HUMINT is collected from enemy and friendly personnel by intelligence agents. Sources include prisoners of war, documents, and communications-electronic operating instructions (CEOIs).
- MASINT is collected from instruments.

Close coordination between the joint staff J2 and the component intelligence staffs enhances detection.

Phase III - Deliver

Timely, accurate delivery is necessary for synchronizing the fire support system. The two key elements of this phase are attack of targets and battle damage assessment.

Attack of targets. The attack of targets requires time for attack, an attack system, and the desired effects. Using these requirements, components attack, using lethal and nonlethal means. The two types of targets are planned targets and targets of opportunity.

Battle damage assessment. The assessment of target damage is critical feedback. Was the desired effect obtained? Is there a need to reattack? The answer to these questions will focus the remainder of the delivery phase.

Process

The ability to execute a C^3CM plan depends on accurate and timely intelligence. The transitory nature of most aspects of C^2 (connectivity, subordination, criticality, vulnerability, location, frequency) requires tailored collection, immediate analysis, and rapid dissemination and intelligence fusion. The potential exists for friendly collection capabilities to be overwhelmed by a surplus of enemy targets. Identification methods must allow planners to concentrate on specific characteristics of high-value targets. Finally, the analysis process must be timely enough that the resulting intelligence still has value to the tactical planner.

Prioritization and Development for Counter-C3

Planners must build a plan that maximizes limited assets. Since lucrative targets far outnumber available counter-C^3 assets, planners must prioritize potential targets according to their relative importance (from the commander's intent). Criteria include probability of damage, disruption or deception, and the cost of attacking the target. Prehostility analysis involves interpreting the enemy's C^3 structure and projecting possible quantifiable results of friendly C^3 actions against enemy C^3 elements. This analysis should provide established high payoff target lists for the initial stages of war.

Priority is given to those targets whose attack or disruption provides the greatest advantage as outlined by the JFC and component commander's guidance or to those targets which pose the greatest threat. Prioritized targets are mated to a weapon system/EW platform and nominated for attack or disruption. A detailed rationale and estimate of the force required to succeed must support target nominations. For complex targets, planners should spell out the intent of the attack and specific elements of the complex to target.

Counter-C^3 operations require a target data base, apply command guidance and current intelligence to it, and identify targets that satisfy combat missions and objectives. Analysis of counter-C^3 operations is conducted to identify enemy target systems (air defense, C^3, etcetera), facilities, and components. Critical nodes are identified for attack, disruption, deception, or exploitation. Each target is also analyzed to determine both its criticality to enemy and friendly operations and its vulnerability to specific lethal or nonlethal employment means.

The objective of counter-C^3 is to identify targets or target groups for C^3CM operations which prevent the accomplishment of enemy objectives and allow the accomplishment of our own. The critical question is which targets need to be engaged in

order to accomplish the mission and, at the same time, keep the enemy from doing what it wants. Counter-C^3 goes beyond identifying targets through simple analysis. It requires information concerning enemy doctrine, tactics, organization, strengths, weaknesses, command relationships, intentions, and its C^2 process. In fact, counter-C^3 is typically concerned more with the command relationships between targets than the targets themselves. Additionally, target development pertains more to what a target does than what it is. The J2 uses all sources of information to produce the required intelligence to determine these activities and relationships.

Target Integration

C^3 targets must be integrated into a commander's battle plan. For instance, C^3 nodes can be targeted or exploited at any time but are more valuable when they are essential to enemy operations. Both preplanned and immediate targeting, therefore, depend on the timing and integration of air, land, naval, and special operations resources in support of the JFC's C^3CM guidance.

SELECTING ASSETS

Once the JTCB establishes a comprehensive target list, the C^3CM planner begins the process by selecting appropriate assets to accomplish the C^3CM mission. The planner does this by comparing capabilities and selecting forces.

Capability Comparison

One method of comparing friendly capabilities against targets is the threat-event-analysis approach. This approach is based upon the premise that any weapon or weapon support system goes through an identifiable sequence to function successfully. By templating the relationships between components of enemy C^2 structures, planners can reduce a complex problem set to manageable terms.

Intelligence identifies the elements (nodes, links, and so forth) that make up the C^2 process of a targeted function, focusing on critical and vulnerable components. The J2 can depict the results of this analysis on charts or templates. Planners then use the annotated templates to compare the capabilities of available assets and determine the best means to counter the threat. For example, planners annotate and extract critical nodes that are highly susceptible to radar jamming for possible targeting by EW assets. The same is true for nodes that are vulnerable to field artillery or conventional air-to-ground ordnance and links that are susceptible to communications jamming.

Threat-event-analysis templates need not mirror the physical layout of the threat C^2 structures. In some systems, distinct echelons may perform identical functions; in others, multiple functions may occur at one site. When the physical attributes of a C^2 system are important, as for destructive planning, they can be easily portrayed in the template.

Synergistic effects of employing multiple C^3CM assets against a target can also be inferred from the event-analysis templates. Shortfalls and gaps in coverage are easily identified and conflicts and redundancies avoided. The modified event-analysis approach can show the C^3 structure of such C^2 systems as—

- Air defense.
- Radio-electronic combat.
- Maneuver and fire support.
- Reconnaissance, intelligence, surveillance, and target acquisition.

This approach lends itself to automation and greatly speeds up threat analysis and the C^3CM target development process.

Force Selection

Planners complete the comparison of C^3CM capabilities. The commander considers all available employment options when selecting forces. He then decides whether to use disruption, destruction, or deception assets. He begins by identifying assets required, assets available, missions not supported, and secondary asset considerations. He concludes with force selection and recommended weapons loading. Functional tasks used to select forces involve the following planning areas:

- Vulnerability analysis.
- Destruction force planning.

- Disruption force planning.
- Deception systems planning.
- Intelligence collection management.
- Fratricide prevention.

Each task requires a variety of information for successful completion. Vulnerability analysis requires details on the supported operations or missions, relevant threats, and available self-protection systems. In planning for destruction, disruption, deception, or exploitation, planners need—

- Intelligence collected on nominated targets.
- The operational status of forces (equipment availability, munitions, and so forth).
- Weather in the operational area.
- Enemy order of battle.
- Friendly signal operation instructions. C^3 protect requires an in-depth knowledge of friendly operations to prevent fratricide.

Target Analysis

Target analysis should be an extension of the analysis done during the threat-event-analysis process. Enemy vulnerabilities determine the number of assets and level of effort needed. Effective postmission analysis is ensured by close coordination between operational planners and operational intelligence analysts. In addition, intelligence should provide constant feedback on enemy reactions to friendly C^3CM.

Integrated Approach

C^3CM planners must work closely with general target planners to follow an integrated approach to lethal targeting. Planners should keep in mind the long-term effects of hard-kill and must not ignore C^3 targets during conventional target planning. Destruction of a key C^3 facility can delay the start of an enemy attack or degrade the effectiveness of an enemy operation. Disruption of an air surveillance net can increase the use of threat acquisition radar, thereby making that threat more vulnerable to detection and destruction. Degradation of a ground control intercept function removes control and warning from an interceptor aircraft, thereby making it less threatening for friendly air. A thorough understanding of all targets on the target list is critical to devising the most effective approach.

Disruption Force Planning

Jamming of enemy C^2 systems can provide big payoffs, but integrated support to disruption force planning is critical to avoid unintentional redundancy, costly fratricide, or loss of a lucrative intelligence source. In a world of limited resources, the tactical commander cannot afford to waste any assets. Minimizing unintentional disruption of friendly communications should be a major goal, since C^3CM operations can be as detrimental to friendly operations as enemy jamming. Finally, jamming must be weighed against exploitation opportunities.

Deception Systems Planning

Deception includes physical deception (decoys, camouflage, or sound equipment) and electronic deception. Other means include administrative deception using oral, pictorial, documentary, or other physical evidence to support the deception effort. Since deception may confuse friendly as well as hostile forces, planners should take care in planning its use. In order to integrate deception plans with operations, deception planners should work closely with all other planning functions. Since deception planning can cover a wide variety of operations, deception planners should remain flexible. Any and all assets can contribute to deception operations.

Effective Management

C^3CM planning is one of the most intelligence-dependent functions within the battlefield management arena. Consequently, effective management of collection requirements, sources, and targets is the surest means of ensuring quality counter-C^3 operations. Planners should exploit all-source data to determine enemy locations, capabilities, and intentions. Planners should resolve ambiguities and uncertainties if possible.

Communications-Electronics

Access to and use of the electromagnetic spectrum is necessary for effective military operations. C^3CM planners play an important role in devising

communications-electronics plans that allow for friendly use while denying the enemy a similar capability. In concert with the communications-electronics and operation staffs, the C³CM planner works to prevent fratricide while ensuring operational security and countermeasures effectiveness.

ANALYZING THE MISSION

The purpose of C³CM mission analysis is to determine the impact of C³CM operations on enemy facilities, forces, capabilities, and activities. Combat assessments should be conducted for lethal and nonlethal applications. Assessment of lethal targeting is, by nature of its destructive characteristics, far easier to achieve. Combat assessment of lethal attacks includes three components—

- Bomb damage assessment.
- Munitions effects assessment (MEA).
- Mission assessment (MA).

Bomb damage assessment considers the effects of attacks on individual targets and provides feedback on the degree to which current operations achieve assigned objectives. MEA provides an analysis of the effectiveness of munitions and their employment and is used to select the most effective munitions and fuzing. MA provides an assessment of the effects of lethal attacks on entire target systems rather than individual targets. MA adds a number of considerations to combat assessment, such as the availability of repair materials, use of reserves, reconstitution, and recuperation times. Planners should ask the following questions when conducting combat assessments.

- Did the attack achieve the stated objective or predicted results?
- What was the impact on the enemy?
- Should other targets be selected?
- Are additional attacks required and, if so, when?
- Did the weapons systems operate as expected?
- Were there any unanticipated operational limitations?
- Should tactics and operational plans be adjusted?

No standard measure of success exists for C³CM nonlethal operations. Planners can conduct combat assessments using many sources of information. These assessments represent several types of intelligence, including IMINT, SIGINT, and HUMINT. All intelligence disciplines are essential to effective combat analysis and assessment. No single source of intelligence provides enough information to conduct an assessment. All-source intelligence must be used. Some of these sources include—

- Mission report.
- Reconnaissance exploitation report (RECCEXREP).
- Signals intelligence report.
- Initial photographic interpretation report (IPIR).
- Tactical report.
- Electronic intelligence.

Information obtained from combat assessment is very useful. This information is forwarded to the joint staffs, component commands, and operational units as needed. Feedback should flow to everyone associated with C³CM operations, which includes targeteers, operations planners, joint staffs, EC planners, and execution elements. Joint and component staffs should establish these formal feedback loops with standardized reporting procedures and formats.

EXECUTING THE MISSION

The C³CM conduct of operations is normally a subparagraph in the operation order. This subparagraph establishes necessary procedures to integrate supporting disciplines and to ensure maximum effectiveness of C³CM operations against enemy C² weapon control and surveillance systems. At a minimum, the operation order should address C³ protect and counter-C³.

Procedures for joint planning are dependent on time available. When time is not a critical factor, planners use deliberate planning. When time is a factor, planners use crisis action planning. Both procedures use the following steps:

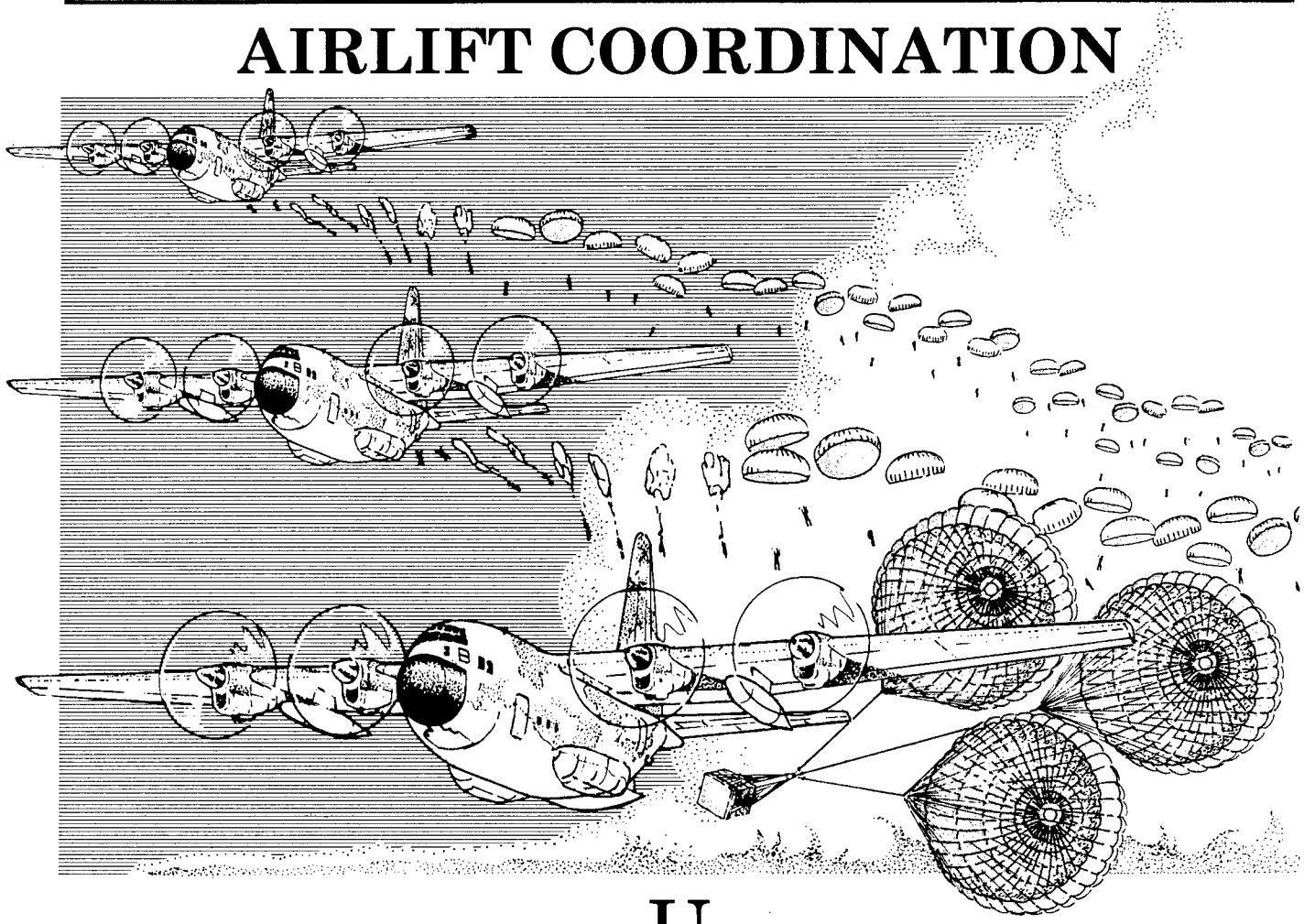
- Step 1. Receive and analyze the task to be accomplished.

- Step 2. Review the enemy situation and begin to collect the necessary intelligence.
- Step 3. Develop and compare alternate courses of action.
- Step 4. Select the best alternative.
- Step 5. Develop and get approval of the concept.
- Step 6. Prepare a plan.
- Step 7. Document the plan.

C^3CM planning parallels the normal sequence of military planning. When mission analysis begins, the commander and his staff must treat C^3CM as a requirement to accomplish joint force operations. The commander will integrate C^3CM planning into the proposed COA and incorporate each component of C^3CM into the final plan.

Chapter 4

AIRLIFT COORDINATION



United States airlift forces deploy, sustain, and redeploy military personnel and equipment directly into conflict areas in contingencies and during wartime. Aerial delivery of reinforcements, sustainment of troops in contact, and airlift support for deep operations require close, effective coordination to ensure mission safety and effectiveness. The theater ALCC, the joint rescue coordination center (JRCC), and the Air Force special operations base are elements that support airlift. For effective airlift operations, planners must know how C^3CM applies to these operations.

PLANNING

According to JCS Publication 4-02[1], the ALCC prepares the airlift mission schedule based on airlift requirements validated and prioritized by the joint transportation board. The ALCC publishes the schedule during the same cycle as the TACC air tasking order (ATO) and transmits it to the same agencies.

The ALCC airlift operations division prepares the airlift ATO, working through the airlift duty officer (ALDO). The division—

- Coordinates specific airlift missions with the TACC airspace management section.
- Deconflicts airlift operations with other planned air operations.
- Limits the potential for fratricide from friendly fires.
- Coordinates C³CM support.

Major airlift operations need dedicated support of the other air operations elements. To properly sequence air activity and supporting surface fires, operations planners work directly with appropriate TACC combat plans mission schedulers, the BCE or functional equivalent, and coordinating liaison elements. Forces and agencies executing the operations must review both the TACC ATO and the airlift annex to understand the sequenced packaging of the C³CM support. The ATO must include the specifics of the mission.

Time permitting, tactical airlift liaison officers (TALOs) provide advance notification of immediate airlift requests, including tactical emergencies, to the ALCC. This notification includes known C³CM requirements. TALOs use a radio net separate from the air request net. Advance notification permits the ALCC to begin the planning and coordinating process, but the component requesting airlift support still must validate and prioritize the request.

In tactical emergencies, the BCE or functional equivalent may work validation in reverse. The ALCC senior duty controller identifies airlift resources and formulates a mission concept. The combat operations division within the ALCC actually plans and coordinates immediate airlift operations and develops C³CM support packages. It does this along with the BCE or functional equivalent and coordinating liaison element. The ALCC then returns the complete airlift mission schedule to the senior duty controller. At the same time, the TACC combat operations and component fire support elements direct C³CM support missions.

THEATER AIRLIFT MANAGEMENT

The theater airlift management structure in a unified command must interface with the key elements of the Tactical Air Control System-Army Air Ground System (TACS-AAGS). FM 100-27/AFM 2-50[2] discusses the airlift system in detail.

Following are key points that C³CM mission planners need to know about theater airlift:

- Airlift is available to all components. Components must request airlift through channels by using JFC-prescribed joint airlift request procedures.[3]
- The ALCC, normally collocated with the TACC, may be geographically separated if the theater is complex or circumstances warrant. Secure, dedicated connectivity to the TACC is essential if the two are separated.

OPERATIONS

The component requesting airlift normally identifies C³CM requirements at the lowest echelon possible. Airlift assets supporting a C³CM mission must be given a priority based on the mission's urgency. To request airlift, the component must forward the C³CM request through component channels to ensure coordination with planners. Military Airlift Command liaison officers

[1] *Doctrine for Airlift Support to Joint Conventional Operations* (to be developed).

[2] *US Army/US Air Force Doctrine for Joint Airborne and Tactical Airlift Operations*, 1 March 1985.

[3] Airlift requests are not processed through the air support operations center (ASOC) or TACC air request net except in some tactical emergencies where access to normal communication channels is denied. A JFC-designated agent or JTB validates and prioritizes all requests and forwards them to the commander of airlift forces for the theater ALCC's mission planning, coordination, and scheduling.

and TALOs will normally assist component planners in coordinating airlift support.

If C^3CM support is required after the ALCC planning process begins, the ALCC requests C^3CM support from the TACC. C^3CM support for airlift missions is unlikely unless the supported Army unit submits the request simultaneously to the TACC from the ALCC and through the supported Army unit's air request channels. This type of preplanned request normally requires a 96-hour lead time. Immediate requests (those with less than 96-hour notice) are normally supported only by diverting a planned C^3CM mission that the supported Army unit previously requested.

Some theater-level operations, for example, airborne assault, deep operations, and special operations, will require C^3CM support. All components and agencies involved in the operation must coordinate their efforts.

NONAIRLIFT PROCEDURES

MAC forces may operate under the control of C^2 elements other than the ALCC such as a combat search and rescue (CSAR) provisional group or an Air Force special operations command (AFSOC).

The CSAR provisional group is a C^2 agency through which the commander of combat rescue forces (COMCRF) exercises operational control (OPCON) of dedicated CSAR forces. Normally, a CSAR provisional group is composed of theater and augmenting rescue staff personnel. The COMCRF coordinates theater CSAR operations through a rescue coordination center (RCC). The RCC plans, coordinates, executes, and controls the recovery of downed aircrew members and others in distress in combat or contingency operations. The RCC is manned by respective component-only personnel.

The RCC may be collocated with and thus help form a JRCC—a jointly manned organization consisting of two or more components. The JRCC does not have OPCON of any flying assets. Depending on the situation, the JRCC must request aviation support through the JFACC. The JRCC only exercises mission control of the assets by prosecuting the mission. A search and rescue liaison officer provided to the TACC coordinates C^3CM requirements, as well as other support and airspace deconfliction.

An AFSOC is a provisional organization formed from special operations forces that are assigned or OPCON to the JFC. It is formed at the special operations commander's direction, usually in conjunction with a theater special operations commander. The AFSOC provides support to the commander of Air Force special operations forces (AFSOF) in the areas of administration, mission planning, logistics, training, and intelligence for committed Air Force elements.

The AFSOC is the focal point for communications and control of employed forces and provides connectivity with the operations task force or components for the JFC. One AFSOC element physically located in the TACC deconflicts operations of committed AFSOF with those of the TACC. Where the Air Force component commander (AFCC) and TACC are not collocated, the AFSOC will provide a coordinating cell to augment the AFCC staff.

Appendix A

BATTLEFIELD COORDINATION ELEMENT

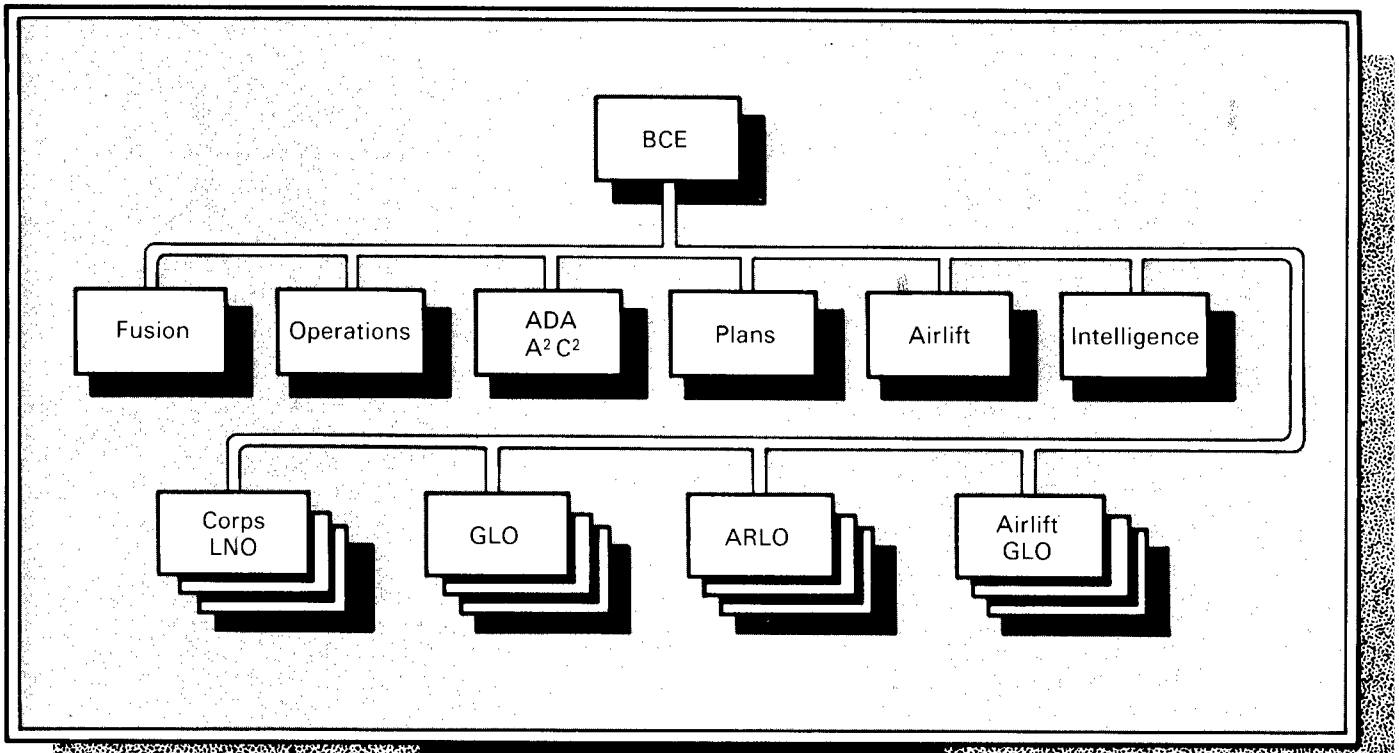


Figure A-1. The BCE

The BCE integrates Army requests for all tactical air (TACAIR) support and synchronizes that TACAIR with Army ground maneuvers. The BCE consists of six sections (see Figure A-1) which interface with the four sections of the TACC and ALCC (see Figure A-2). Through the activities of these six sections, the BCE becomes a major player in coordinating, synchronizing, and integrating the C^3CM into the commander's scheme of maneuver.

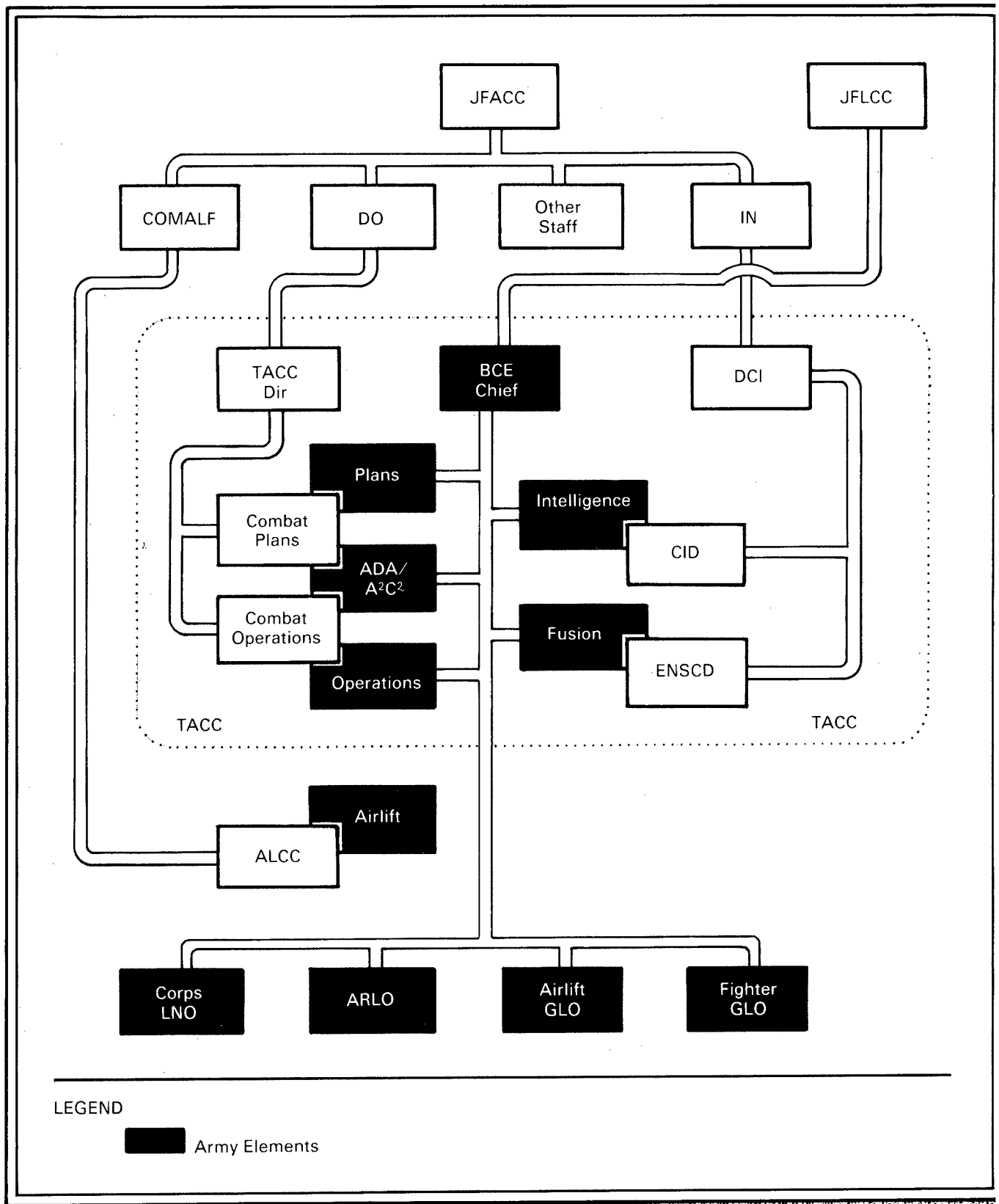


Figure A-2. BCE-TACC Interface

PLANS SECTION

The BCE plans section is collocated with the TACC combat plans division and serves as the primary point of contact for all preplanned TACAIR requests. The plans section receives the Army's prioritized EW requests and coordinates with the EW plans officer for their incorporation into the ATO.

The plans section provides the initial C^3CM interface in planning for future operations. The ACC provides the concept of operations, priorities, and requirements. As part of this interaction during the resource apportionment and allocation process, C^3CM options are also addressed, such as EW priorities, deception plan, and deep targeting.

The plans section serves as the main coordinator for all Army preplanned C^3CM operations requiring TACAIR support, especially physical destruction, jamming, OPSEC, and deception. This section ensures the synchronization of the C^3CM operation and provides the EC planners at the TACC with—

- The current ground situation.
- The Army's EW priorities.
- All Army EW preplanned targets.
- A list of known ESM frequencies.
- Access to the Army's GUARDED, PROTECTED, and TABOO frequencies (via special security office channels).

The TACC EC planner provides the plans section with—

- Current and future EW assets available in theater.
- Scheduled EC missions on the current ATO.

INTELLIGENCE SECTION

The BCE intelligence section provides the detailed intelligence support and exchange of information required to support C^3CM planning. This support includes coordinating, analyzing, and depicting IPB and EPB.

The intelligence section collocates with the combat intelligence division (CID) and supports the plans section on all C^3CM subjects by—

- Reviewing all preplanned United States message text format (USMTF) EW requests for accuracy and completeness.
- Assisting the plans section with target development as necessary.
- Ensuring that the Army's senior EW officer deconflicts Army ECM requests to preclude the Air Force from jamming Army GUARDED, PROTECTED, and TABOO frequencies.
- Providing expertise on enemy collection capabilities.
- Coordinating Army intelligence requests into the CID's collection management plan.

OPERATIONS SECTION

The operations section monitors execution of planned tactical air support. C^3CM activities are an important part of this as the operations section handles changes to planned fire support, reconnaissance, and EW activities and coordinates any immediate needs for this support that the ASOC cannot support.

The operations section collocates with the TACC combat operations division and synchronizes current air combat activities with current ground combat operations. The operations section directly coordinates with the Air Force EC duty officer for—

- Changes to preplanned Army EW missions.
- Immediate EW requests by the Army.

FUSION SECTION

As with the intelligence section, the BCE fusion section ensures that current C^3CM activities are properly focused and supported by intelligence, to include OPSEC measures prior to, during, and after C^3CM employment. The fusion section maintains current ground threat information from all available sources and validates the location and the Army's intent to attack enemy C^3 targets.

The fusion section collocates with the TACC enemy situation and correlation division and supports the operations section with current intelligence information. Additionally, the fusion section—

- Processes and tracks all immediate EW missions.
- Validates the current location and the Air Force's intention to attack all Army-nominated interdiction targets on that day's ATO.

AIR DEFENSE ARTILLERY/ ARMY AIRSPACE COMMAND AND CONTROL SECTIONS

The BCE air defense artillery and Army airspace command and control (ADA/A^2C^2) sections of the BCE support Army and Air Force C^3CM interface as required.

AIRLIFT SECTION

The BCE airlift section collocates with the Air Force ALCC (which may or may not be in close proximity to the TACC). The airlift section supports Army and Air Force C^3CM efforts as required on specific operations.

Appendix B

COMPASS CALL TASKING PROCEDURES

- Altitude and Airspace Restrictions
- Controlling Agencies
- Supporting Missions
- Supporting and Supported Missions
- Target Nodes
- Combined/Joint Restricted Frequency List
- Identification Friend or Foe
- Rules of Engagement

COMPASS CALL is best used in a preplanned manner. It allows the crew to study the mission area and determine targets. Army support requests should flow through the ASOC to the BCE at the TACC (or Allied Tactical Operations Center). The Army should submit lists of proposed jamming targets and proposed restricted frequencies to planners in sufficient time to task COMPASS CALL. The Air Component Commander tasking authorities receive guidance and recommendations, integrate and deconflict targets, and disseminate targeting information to the COMPASS CALL unit for execution.

TASKING REQUIREMENTS

The ATO and air tasking message (ATM) are the air component commander's vehicles to assign COMPASS CALL jamming support. The ATO and ATM contain the basic information COMPASS CALL aircrews need to plan missions. Tasking requests should identify priorities of jamming targets, friendly air and surface units, objective areas and timing, restricted frequencies, and coordination of theater signal intelligence support units. The COMPASS CALL crew processes the information in its mission support facility or uses the information to perform manual mission planning. Tasking should also provide procedures for COMPASS CALL operations if communications are lost.

TASKING INFORMATION

To plan and execute a COMPASS CALL mission, the unit will require the information in Figure B-1.

COMPASS CALL is not a tethered jammer controlled from the ground. This does not allow optimum use of the COMPASS CALL mission crew capabilities and information obtained during mission planning.

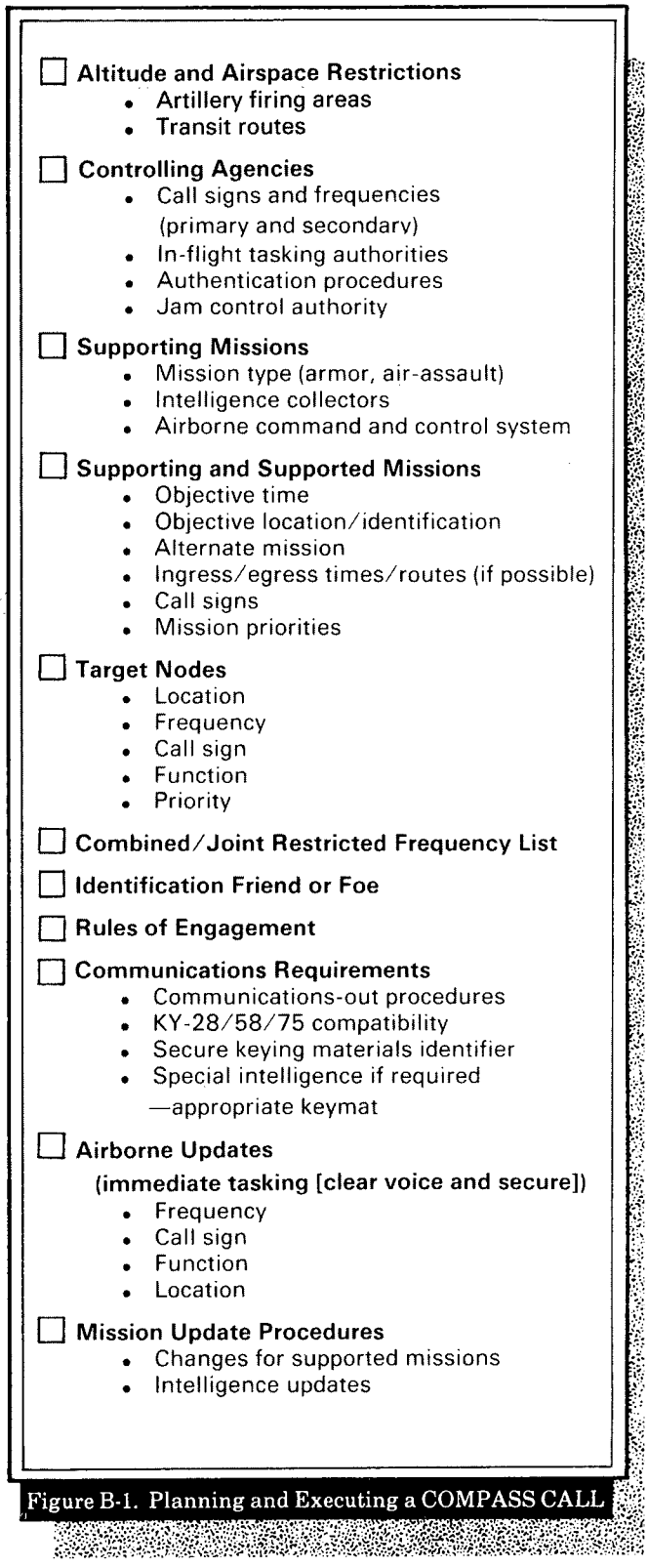


Figure B-1. Planning and Executing a COMPASS CALL

GLOSSARY

AAGS
Army Air-Ground System

ACC
Army component commander

ADA/A2C2
Air defense artillery/Army airspace command and control

AFM
Air Force manual

AFP
Air Force pamphlet

AFR
Air Force regulation

AFSOC
Air Force special operations command

air interdiction
Air operations conducted to destroy, neutralize, or delay the enemy's military potential before it can be brought to bear effectively against friendly forces at such distance from friendly forces that detailed integration of each air mission with the fire and movement of friendly forces is not required. (JCS Publication 1-02)

ALCC
airlift control center

ALDO
airlift duty officer

ALFA Agency
Air Land Forces Application Agency

ARFOR
Army force

ARLO
air reconnaissance liaison officer

ASOC
air support operations center

ATM
air tasking message

ATO
air tasking order

ATOC
Allied Tactical Operation Center (NATO)

battlefield coordiantion element
The battlefield coordination element is the ARFOR coordination element located at the Air Force tactical air control center. The BCE facilitates the synchronization of tactical air support with Army ground operations. The BCE ensures that the TACC and JFACC are aware of the ARFOR commander's intent, scheme of maneuver, and requirements for air support. It serves as an expediter and interpreter of information—both from the Army to Air Force and vice versa. Through the BCE, the ARFOR commander provides a prioritized air interdiction and battlefield air interdiction target nomination list as well as EW, preplanned close air support, and air reconnaissance requirements to the JFACC for inclusion in the air tasking order. It also provides Army input for the establishment of airspace control measures and air defense coordination. The BCE monitors the planning and execution of tactical air missions in support of the Army to ensure they are consistent with the ARFOR commander's intent and based on the most current ground intelligence. In situations where time or lack of communications prevents consultation, the BCE can provide advice and input to the JFACC and TACC in the Army's interests. The BCE's airlift section performs similar functions for COMALF and the ALCC.

BCE
battlefield coordination element

BDA
battle damage assessment

C^2
command and control

C^3
command, control, and communications

C^3CM
command, control, and communications countermeasures

C^3I
command, control, communications, and intelligence

CACDA
Combined Arms Combat Development Activity

campaign plan
A plan for a series of related military operations aimed to accomplish a common objective, normally within a given time and space. (JCS Publication 1-02)

C-E
communications-electronics

CEO
communications-electronics officer

CID
combat intelligence division

CINC
commander-in-chief

close air support
Air action against hostile targets which are in close proximity to friendly forces which require detailed integration of each air mission with the fire and movement of those forces. (JCS Publication 1-02)

COA
course of action

COMALF
commander of airlift forces

COMCRF
commander of combat rescue forces

COMINT
communications intelligence

COMJTF
commander, joint task force

command
The authority that a commander in the military Service lawfully exercises over subordinates by virtue of rank or assignment. Command includes the authority and responsibility for effectively using available resources and for planning the employment of, organizing, directing, coordinating, and controlling military forces for the accomplishment of assigned missions. It also includes responsibility for health, welfare, morale, and discipline of assigned personnel. A unit or units, an organization, or an area under the command of one individual. (JCS Publication 1-02)

command and control
The exercise of authority and direction by a properly designated commander over assigned forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission. (JCS Publication 1-02)

command, control, and communications countermeasures
The integrated use of operations security, military deception, jamming, and physical destruction, supported by intelligence, to deny information to, influence, degrade, or destroy adversary command, control, and communications (C^3) capabilities and to protect friendly C^3 against such actions. Also called C^3CM. There are two divisions within C^3CM:

a. Counter-C^3. That division of C^3CM comprising measures taken to deny adversary commanders and other decisionmakers the ability to command and control their forces effectively.

b. C^3-protection. That division of C^3CM comprising measures taken to maintain the effectiveness of friendly C^3 despite both adversary and friendly counter-C^3 actions. (JCS Publication 1-02)

COMPASS CALL
An electronic combat version of the C-130H aircraft designated as EC-130H. Contains electronic equipment designed to jam enemy communications.

COMSEC
communications security

CONUS
continental United States

critical node
An element, position, or communications entity whose disruption or destruction immediately degrades the ability of a force to command, control, or effectively conduct combat operations. (JCS Publication 1-02)

critical vulnerability
When a C^3 target is vulnerable to attack for a limited period of time.

CSAR
combat search and rescue

DCI
Deputy for Combat Intelligence

deception
Those measures designed to mislead the enemy by manipulation, distortion, or falsification of evidence to induce him to react in a manner prejudicial to his interests. (JCS Publication 1-02)

deconfliction
Deconfliction is the process of satisfying conflicting spectrum usage requirements when C^3 EW systems are operated simultaneously in battle.

deep operations
Deep operations comprise activities directed against enemy forces not in contact. They are designed to influence the conditions in which future close operations will be conducted. (FM 100-5)

destruction
A type of adjustment for destroying a given target. (JCS Publication 1-02)

destruction fire
Fire delivered for the sole purpose of destroying material objects.

destructive fire mission
In artillery, fire delivered for the purpose of destroying a point target.

destructive means
Military action employed to physically damage or destroy enemy systems or personnel. (TRADOC Pamphlet 525-9/TAC Pamphlet 50-24)

direct fire
Gunfire delivered on a target using the target itself as a point of aim for either the gun or the director. (JCS Publication 1-02)

disruptive means
Military action employed to damage, degrade, deceive, delay, or neutralize enemy surface-to-air systems temporarily. There are two types of disruptive means: active and passive. Active includes jamming, chaff, flares, and tactics such as deception and avoidance/evasion flight profiles. Passive includes camouflage, infrared shielding, warning receivers, and material design features. (TRADOC Pamphlet 525-9/TAC Pamphlet 50-24)

DO
deception operation

DOD
Department of Defense

DSE
deception staff element

EAC
echelons above corps

EC
electronic combat

ECCM
electronic counter-countermeasures

echelon
Separate level of command. (JCS Publication 1-02)

echelons above corps
Army headquarters and organizations that provide the interface between the theater commander (joint or combined) and the corps for operational matters, and between the continental United States (CONUS)/Host Nation and deployed corps for combat service support (CSS). Operational EAC may be US only or allied headquarters while EAC for CSS will normally be US national organizations. (FM 101-5-1)

ECM
electronic countermeasures

EEFI
essential elements of friendly information

EF-111
electronic-warfare-equipped F-111 aircraft (RAVEN)

electromagnetic spectrum

The range of frequencies of electromagnetic radiation from zero to infinity. It is divided into 26 alphabetically designated bands. Also see electronic warfare. (JCS Publication1-02)

electronic warfare

Military action involving the use of electromagnetic energy to determine, exploit, reduce or prevent hostile use of the electromagnetic spectrum and action which retains friendly use of electromagnetic spectrum. Also called EW. There are three divisions within electronic warfare:

a. Electronic countermeasures—That division of electronic warfare involving actions taken to prevent or reduce an enemy's effective use of the electromagnetic spectrum. Also called ECM. Electronic countermeasures include:

(1) Electronic jamming—The deliberate radiation, reradiation, or reflection of electromagnetic energy for the purpose of disrupting enemy use of electronic devices, equipment, or systems. See also jamming.

(2) Electronic deception—The deliberate radiation, reradiation, alteration, suppression, absorption, denial, enhancement, or reflection of electromagnetic energy in a manner intended to convey misleading information and to deny valid information to an enemy or to enemy electronics-dependent weapons. Among the types of electronic deception are:

(a) Manipulative electronic deception—Actions to eliminate revealing, or convey misleading, telltale indicators that may be used by hostile forces.

(b) Simulative electronic deception—Actions to represent friendly notional or actual capabilities to mislead hostile forces.

(c) Imitative electronic deception—The introduction of electromagnetic energy into enemy systems that imitates enemy emissions.

b. Electronic counter-countermeasures—That division of electronic warfare involving actions taken to insure friendly effective use of the electromagnetic spectrum despite the enemy's use of electronic warfare. Also called ECCM.

c. Electronic warfare support measures—That division of electronic warfare involving actions taken under direct control of an operational commander to search for, intercept, identify, and locate sources of radiated electromagnetic energy for the purpose of immediate threat recognition. Thus, electronic warfare support measures (ESM) provide a source of information required for immediate decisions involving electronic countermeasures (ECM), electronic counter-countermeasures (ECCM), avoidance, targeting, and other tactical employment of forces. Also called ESM. Electronic warfare support measures data can be used to produce signals intelligence (SIGINT), both communications intelligence (COMINT) and electronics intelligence (ELINT). (JCS Publication 1-02)

ELSEC

electronic security

EMCON

emission control

ENSCD

enemy situation and correlation division

EPB

electronic preparation of the battlefield

ESM

electronic warfare support measures

EW

electronic warfare

EWO

electronic warfare officer

FEBA

forward edge of the battle area

fire support

Assistance to those elements of the ground forces which close with the enemy such as infantry and armor units, rendered by delivering artillery and mortar fire, naval gunfire, and close air support. Fire support may also be provided by tanks, air defense artillery, and aviation assets. (FM 101-5-1; see also AR 310-25)

fire support coordination

The planning and executing of fire so that targets are adequately covered by a suitable weapon or group of weapons. (JCS Publication 1-02)

fire support element

The fire support element located in divisions and corps controls all deep fires as part of the delivery

function of deep targeting. It operates the Army Airspace Command and Control Element, coordinates Air Force support through the ASOC, and controls lethal and nonlethal fires. (FM 6-20)

FLOT
forward line of own troops

FM
field manual

forward line of own troops
A line which indicates the most forward positions of friendly forces in any kind of military operation at a specific time. The FLOT may be at, beyond, and short of the forward edge of the battle area (FEBA), depicting the nonlinear battlefield. (FM 101-5-1; JCS Publication 1-02)

forward observer
An observer operating with frontline troops and trained to adjust ground or naval gunfire and pass back battlefield information. In the absence of a forward air controller the observer may control close air support strikes. (JCS Publication 1-02)

FSE
fire support element

GLO
ground liaison officer

GUARDED frequency
GUARDED frequencies are those of the enemy's C-E system from which SIGINT and ESM information of technical and tactical importance is derived. A GUARDED frequency may be jammed only after the commander has weighed the potential operational gain against the loss of information. These frequencies are time-oriented in that the list may change as the enemy assumes different combat postures.

high-payoff target
High-value targets that must be successfully acquired and attacked to contribute substantially to the success of friendly operations. They are developed on the basis of METT-T and are not dependent on the ability of the unit to acquire or attack them. If a high-payoff target is beyond the capability of the unit to acquire, then it should be passed to the next-higher echelon as a priority intelligence requirement. (FM 6-20-30)

high-value target
Targets deemed important to the enemy commander for the successful accomplishment of his mission. The loss of high-value targets can be expected to contribute to a substantial degradation of an important enemy battlefield function. High-value targets are developed by using the TVA tools based on the interpretation by the friendly intelligence system of the enemy course of action. (FM 6-20-30)

HQ
headquarters

HUMINT
human intelligence

IEW
intelligence electronic warfare

IMINT
imagery intelligence

immediate air support
Air support to meet specific requests which arise during the course of a battle and which by their nature cannot be planned in advance. (JCS Publication 1-02)

immediate airlift requests
Requests generated to meet airlift requirements which, due to their critical nature, cannot be filled by a preplanned mission. (FM 100-27/AFM 2-5)

immediate mission request
A request for an air strike on a target which by its nature could not be identified sufficiently in advance to permit detailed mission coordination and planning. (JCS Publication 1-02)

indirect fire
Fire delivered on a target which is not itself used as a point of aim for the weapons or the director. (JCS Publication 1-02)

intelligence
The product resulting from the collection, processing, integration, analysis, evaluation, and interpretation of available information concerning foreign countries or areas. (JCS Publication 1-02)

interoperability
The ability of systems, units, or forces to provide services to and accept services from other systems, units, or forces and to use the services so exchanged to enable them to operate effectively together. (JCS Publication 1-02)

IPB
intelligence preparation of the battlefield

IPIR
initial photographic interpretation report

IR
infrared

ISD
Instructional System Development

J2
joint staff intelligence officer

J3
joint staff operations officer

J6
joint staff communications officer

J-SEAD
joint suppression of enemy air defenses

JCEWS
joint commander's electronic warfare staff

JCS
Joint Chiefs of Staff

JFACC
joint force air component commander

JFC
joint force commander

JFLCC
joint force land component commander

JFSOC
joint force special operations component

JFSOCC
joint force special operations component commande

joint
Connotes activities, operations, organizations, etc., i which elements of more than one service of the sam nation participate. (JCS Publication 1-02)

joint force
A general term applied to a force which is composed o significant elements of the Army, the Navy or Marin Corps, and the Air Force, or two or more of thes services, operating under a single commander author ized to exercise unified command or operational con trol over such joint forces. (JCS Publication 1-02)

joint operation
An operation carried on by two or more of the Service of the United States. (FM 101-5-1; see also AR 310-25

joint targeting coordination board
Coordinates targeting information, provides targe ing guidance and priorities, and prepares refines joint target lists. The JTCB is normall chaired by the J3 or his representative and consists o representatives of the J2 and other staff directorate and components, as appropriate. JTCB meetings ar normally conducted daily to disseminate COMJTF targeting guidance and objectives, monitor the effec iveness of targeting efforts, coordinate and deconflic all JTF targeting operations, validate no-fire area and approve new target nominations for inclusion i the JTL. JTCB meeting results should be provided t component/supporting forces. The results includ additions/changes to no-fire areas and the JTL mod fications to JTF targeting strategy and summariz tions of the daily battle damage assessment (BDA reports received form component/supporting force (JCS Publication 5-00.2)

joint target list
A consolidated list of select targets considered to hav military significance in the joint operations area (JCS Publication 1-02)

JRCC
joint rescue coordination center

JRFL
joint restricted frequency list

JTCB
joint targeting coordination board

JTF
joint task force

JTL
joint target list

liaison
That contact or intercommunication maintained between elements of military forces to ensure mutual understanding and unity of purpose and action. (JCS Publication 1-02)

links
An information path connecting two nodes.

LNO
liaison officer

MA
mission assessment

MAC
Military Airlift Command

MACP
Military Airlift Command pamphlet

maneuver
1. A movement to place ships or aircraft in a position of advantage over the enemy.

2. A tactical exercise carried out at sea, in the air, on the ground, or on a map in imitation of war.

3. The operation of a ship, aircraft, or vehicle, to cause it to perform desired movements.

4. Employment of forces on the battlefield through movement in combination with fire, or fire potential, to achieve a position of advantage in respect to the enemy in order to accomplish the mission. (JCS Publication 1-02)

MASINT
measure and signature intelligence

MCM
multicommand manual

MEA
munitions effects assessment

military deception
Actions executed to mislead foreign decision makers, causing them to derive and accept desired appreciations of military capabilities, intentions, operations, or other activities that evoke foreign actions that contribute to the originator's objectives. There are three categories of military deception:

a. Strategic military deception—Military deception planned and executed to result in foreign national policies and actions which support the originator's national objectives, policies, and strategic military plans.

b. Tactical military deception—Military deception planned and executed by and in support of operational commanders against the pertinent threat, to result in opposing operational actions favorable to the originator's plans and operations.

c. Department/Service military deception—Military deception planned and executed by Military Services about military systems, doctrine, tactics, techniques, personnel or service operations, or other activities to result in foreign actions which increase or maintain the originator's capabilities relative to adversaries. (JCS Publication 1-02)

mission
The task together with the purpose, that clearly indicates the action to be taken and the reason therefore. (JCS Publication 1-02)

NOB
notional order of battle

nodes
Areas connected by links where information either originates or terminates. (JCS Publication 1-02)

OPCON
operational control

operation
A military action or the carrying out of a strategic, tactical, service, training, or administrative military mission; the process of carrying on combat, including movement, supply, attack, defense, and maneuvers needed to gain the objectives of any battle or campaign. (JCS Publication 1-02)

operation order
A directive issued by a commander to subordinate commanders for the purpose of effecting the coordinated execution of an operation. (JCS Publication 1-02)

operation plan
A plan for a single or series of connected operations to be carried out simultaneously or in succession. It is usually based upon stated assumptions and is the form of directive employed by higher authority to permit subordinate commanders to prepare supporting plans and orders. The designation "plan" is usually used instead of "order" in preparing for operations well in advance. An operation plan may be put into effect at a prescribed time, or on signal, and then becomes the operation order. (JCS Publication 1-02)

OPLAN
operation plan

OPR
office of primary responsibility

OPSEC
operations security

PACAF
Pacific Air Forces

PACAFP
Pacific Air Forces pamphlet

preplanned airlift requests
Requests generated to meet airlift requirements which can be forecast or where requirements can be anticipated and published in the air tasking order. (AFM 100-27/AFM 2-5)

preplanned air support
Air support in accordance with a program planned in advance of operations. (JCS Publication 1-02)

preplanned mission request
A request for an air strike on a target which can be anticipated sufficiently in advance to permit detailed mission coordination and planning. (JCS Publication 1-02)

PROTECTED frequency
Frequencies which are used by tactical friendly forces for a particular operational requirement. They are designated by the senior tactical commander to control interference produced by friendly jamming and deception operations. Conflicts between frequency requirements for jamming and tactical command are resolved by the commander.

QSTAG
quadripartite standardization agreement

RCC
rescue coordination center

recce
reconnaissance

RECCEXREP
reconnaissance exploitation report

rivet joint
An airborne system for the intercept and direction finding of communications signals, as well as noncommunications and radar signals.

rules of engagement
Directives issued by competent military authority which delineate the circumstances and limitations under which United States forces will initiate and/or continue combat engagement with other forces encountered. (JCS Publication 1-02)

SAR
search and rescue

SEAD
suppression of enemy air defenses

SIGINT
signals intelligence

SOF
special operations forces

SOP
standing operating procedure

special operations
Actions conducted by specially organized, trained, and equipped military and paramilitary forces to achieve military, political, economic, or psychological objectives by nonconventional military means in hostile, denied, or politically sensitive areas. They are conducted in peace, conflict, and war, independently or in coordination with operations of conventional forces. Politico-military considerations frequently shape special operations, requiring clandestine, covert, or low visibility techniques, and oversight at the national level. Special operations differ from conventional operations in degree of physical and political risk, operational techniques, mode of employment, independence from friendly support, and dependence on detailed operational intelligence and indigenous assets. (JCS Publication 3-05)

special operations forces
Special Operations Forces, as designated by the Secretary of Defense, are those forces specifically organized, trained, and equipped to conduct or support SO primary and collateral missions as herein described. These missions are not the sole purview of designated SOF. Under certain circumstances, conventional forces may provide the capabilities required to conduct a specific special operation. However, designated SOF are principally structured to be the force of choice under most circumstances. They possess unique capabilities designed to address those missions, regardless of where they are conducted in the operational continuum. (JCS Publication 3-05)

suppression of enemy air defenses
SEAD is that activity which neutralizes, destroys, or temporarily degrades air defenses in a specific area by physical attack and/or electronic warfare. (JCS Publication 1-02)

TABOO frequency
Frequencies which must never be deliberately jammed or interfered with by friendly forces. These frequencies are normally announced by higher headquarters such as the joint force or component commanders. Examples include, but are not limited to, Defense Communications System (DCS) radar frequencies used for friendly early warning air defense, enemy frequencies being exploited by higher headquarters for intelligence purposes, frequencies used for C^2 of friendly forces and formations, friendly missile control frequencies, and search and rescue nets. TABOO frequencies also include internationally controlled or treaty-governed frequencies, such as broadcast emergency frequencies and commercial air and shipping traffic control frequencies. A TABOO frequency can be time-oriented, and the restriction may be removed as the situation develops. This decision is the responsibility of the originating headquarters.

TACC
tactical air control center

TACP
Tactical Air Command pamphlet

TACR
Tactical Air Command regulation

TACS
tactical air control system

tactical air operation
An air operation involving the employment of air power in coordination with ground or naval forces to:

a. Gain and maintain air superiority.

b. Prevent movement of enemy forces into and within the objective area and to seek out and destroy these forces and their supporting installations.

c. Join with ground or naval forces in operations within the objective area, in order to assist directly in attainment of their immediate objective. (JCS Publication 1-02)

tactics
1. The employment of units in combat.

2. The ordered arrangement and maneuver of units in relation to each other and/or to the enemy in order to use their full potentialities. (JCS Publication 1-02)

TAF
tactical air forces

TALO
tactical airlift liaison officer

target of opportunity
A target visible to a surface or air sensor or observer, which is within range of available weapons and against which fire has not been scheduled or requested. (JCS Publication 1-02)

templating
A graphic illustration of enemy force situation, deployment, or capabilities, normally drawn to scale. Usually doctrinal situation, event, and decision support templates are used. (FM 34-1)

theater
The geographical area outside CONUS, for which a commander of a unified or specified command has been assigned military responsibility. (JCS Publication 1-02)

theater airlift
The movement of personnel and materiel by USAF aircraft which provide air movement and delivery of combat troops and supplies directly into objective areas through airlanding, extraction, airdrop, or other delivery techniques; and the use of air transport in direct support of airborne assault, carriage of air-transported forces, resupply, and evacuation of casualties from forward airfields.

theater army
The Army component of a US unified command in a theater of operations. An echelons above corps (EAC) organization, it provides combat, combat support (CS and combat service support (CSS) forces in the thea er. It must be tailored for each theater. (FM 101-5-1

theater commander
The overall commander of a theater. Commonl referred to as CINC, the theater commander is desi nated by the president in US unilateral theater Immediately subordinate to the theater commande are the service component commanders. In combine operations, the theater commander is appointed usin procedures established in the political agreemer which formed the combined theater.

TRADOC
Training and Doctrine Command

USA
United States Army

USAF
United States Air Force

USAFEP
United States Air Forces Europe pamphlet

USREDCOM
United States Readiness Command

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By Order of the Secretary of the Army:

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